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C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

## LECTURE IV.—PART I.

## PERTUSSIS, OR HOOPING-COUGH.

ONE of the commonest, most interesting, and least understood of the affections of infancy, is a disease which is both contagious and epidemic in its nature, characterized by a particular kind of cough which returns in frequent paroxysms. The expirations in which the fit of coughing consists, succeed each other with great rapidity, and are terminated by a prolonged and sonorous inspiration which is known as the *hoop*, and from which the disorder has acquired its usual designation.

No positive mention of it can be discovered in the works of the Ancients, nor in those of the Arabian physicians; it has in consequence been presumed to have passed from the East Indies and Africa into Europe. Baillou records in 1578 an epidemic disorder which resembled in many points the ordinary form of pertussis. It arose towards the end of a dry and hot summer, attacked principally children, and the cough was so violent that it produced bleeding from the nose and mouth, and vomiting. In 1682 Willis appears to have intended this disease by his description of a suffocative, convulsive cough of children, and seven years after we have another record of an epidemic of the same kind which prevailed in Paris, by Dr. Schenck. From the commencement of the eighteenth century, however, our knowledge of the disorder becomes fuller and more reliable. Since the year 1724 epidemics of it have been frequent, and differing considerably from one another in many of their features, yet preserved the peculiar and familiar symptoms; sometimes they were marked by a complete absence of fever; sometimes, on the other hand, the fever was sharp, and either continuous or intermitting. In the epidemic observed at Vienna in 1746, the malady lasted from twenty to thirty days, and was marked by frequent epistaxis; that which prevailed in Mecklenburg in 1757 had, as its distinctive peculiarity, the occurrence of nausea and vomiting; while that which reigned in Copenhagen in 1767 was complicated by tertian ague, by convulsive attacks in infants during the period of dentition, by threatnings of suffocation when the cough came on during sleep, and by repeated relapses.

In 1769 the disease appeared in its severest and gravest form in Sweden, and was then observed by Dr. Rosen. It usually began with violent fever, and was accompanied by abundant epistaxis, emaciation, general anasarca, hæmoptysis, and very great mortality; sometimes it terminated in phthisis. In 1806 the epidemic which extended over the continent, chiefly attacked children between five and ten years of age, and had no catarrhal stage whatever, but commenced with hoarseness and sneezing, and was complicated by pneumonia and measles.

In Dillingen, in 1811, the paroxysms came on in the morning, together with convulsions, and in young subjects, delirium; at Milan, in 1815, hooping-cough and double tertian fever appeared in the same patients; during the exacerbations the cough and paroxysms of pertussis vanished entirely, only, however, to be seen again during the interval. It would be impossible, however, to describe the different ways in which it has from time to time manifested itself; in the present day the epidemics of this disorder seem to have lost much of their intensity. The causes that

produce them cannot be appreciated; they invade a village, a town, or an entire district at irregular periods. Their symptoms are at one time severe, at another comparatively unimportant. Hooping-cough too, as you know is common with some of the eruptive fevers, appears but once in the lifetime of a single individual; so that while it may attack an adult or an aged person who has never before been exposed to the conditions which produce it, yet it is seen most generally in infancy and childhood.

First among its causes then, we may rank *age*. Several authors mention instances in which children have come into the world with the disease, and have hooped on the day that they first saw the light. But such cases are uncommon, and indeed during the first six months the malady is rare. Its maximum lies between six months and the fifth year of age. Dr. West says that in 1367 cases 41·2 per cent. were during the first two, 56·7 during the first three, 82·9 during the first five, and 98·4 per cent. during the first ten.

*Sex* also has nearly as much to do with it as age, girls being far more liable than boys to contract it. Bouchut found that among thirty-three cases seen by him, twenty-one were amongst girls, and twelve amongst boys; and of one hundred cases at the Children's Infirmary of London, 55·3 per cent. occurred in females against 44·7 per cent. in males.

Pertussis chiefly affects feeble and delicate children, especially those which are of a lymphatic constitution, and it prevails in all classes of society. Poor children who are improperly fed, and imperfectly clothed, and who live in low, damp, unwholesome situations, are its favorite subjects. It appears indifferently in all seasons and climates, notwithstanding that it is thought to be more frequent in cold than in warm weather. In the winter of 1841, in London, the greatest intensity of the complaint was during the months of December and January; while in 1845 exactly the reverse took place, for it prevailed most widely during the months of June and July. Atmospheric changes do not seem to exercise much influence over it, but it often comes in the wake of an epidemic of measles, or during a period in which there is an unusual disposition to catarrh.

Several authors have denied its contagious character, but this is now well established by innumerable instances. What the nature of the contagious principle is we are unable to say; it has been supposed to be exhaled from the body of the patient, or to emanate from his breath. Dr. Rosen thinks that the morbid material may be carried about in the clothes of an attendant or physician, and relates an instance to show that he had transported it himself in this way. I will quote two cases of its propagation by personal contact, from the work of M. Bouchut. "Mr. Rosen relates the case of a child who, while in the country, contracted hooping-cough by playing with the children of the gardener who were themselves laboring under this disease. This child successively transmitted hooping-cough to his brother and sister. The mother, who often played with the last mentioned one, was also attacked, lastly the father, and all the servants who were brought into contact with those children were seized with the disease. In the house and around the house, the children and the individuals who did not directly communicate with the patients were free from the disease."

A woman who was confined at her own house early in August, 1843, was visited by one of her parents who lived in quite an opposite quarter of Paris. One of her nephews, who had been laboring under hooping-cough for a month, came to see her. This child remained the whole day near the newly delivered patient, and two days after this visit, that is to say in the fourth day from birth, the infant commenced coughing; eight days after it had hooping-cough.

The mother and child were admitted into the Necker hospital, where we were able to verify the existence of this disease. The child had as many as twenty attacks of cough in the twenty-four hours. Particular inquiries were

made of the mother, to discover if there were other children laboring under whooping-cough in the house in which she lived, but there were none. In this case, then, contagion was decidedly the cause of the whooping-cough.

Still we are not justified in considering contagion the principal source of the disease, as some, especially Dr. Lombard, have done. The propagation of the disorder requires, in fact, a particular constitution of the atmosphere, and a special temperament. We cannot tell how long it retains its contagious character, nor at which period it is safe to allow communication between infected and uninfected individuals; we should therefore be particular to isolate a child who labors under it until the cough is entirely gone.

The symptoms of whooping-cough have been divided generally into two or three stages. French authors usually speak of a period of invasion, a period of increase, and a period of decline; some English writers mention the inflammatory, congestive, and nervous stages; and others again the catarrhal and spasmodic conditions, which is perhaps the more natural division, since the period of decline is simply the resolution of the disease. Even this division, however, is not faultless, for in some cases the hoop and the *kink*, as it is called, are present at the very beginning; while in others the simple coryza or bronchitis to which the convulsive cough succeeds, continues for such a long time that it can hardly be considered a precursory symptom; and in other cases again after the hoop has disappeared, and the symptoms seem to be slight, some trifling circumstance will reproduce the complaint in all its former intensity.

The first or catarrhal stage presents the phenomena of a simple coryza and slight bronchitis. The child appears to have caught cold. There is a cough, either dry or accompanied by increased bronchial secretion, and occasional sensations of heat and chilliness alternately; or else some fever, with a disposition to the tertian or quartan type. The little patient loses his appetite, and suffers with constipation of the bowels. He also sneezes frequently, his sleep is agitated, he is capricious and restless. His eyes are somewhat injected and watery, his eyelids have a dusky color, his face is swollen, and expresses sadness and depression. The cough distresses him more than anything else—it sometimes returns with extreme frequency, even as often as forty or fifty times in a minute, and may continue several days with this incredible repetition. This, however, is not common; it usually cannot be distinguished from the short cough of incipient bronchitis.

During this stage, then, we discover nothing but the usual symptoms of catarrh, and it is consequently impossible to diagnose whooping-cough at its beginning. No blame can attach to us if we even suspect the invasion of measles, or of other eruptive fevers, and we are very liable to commit this error during the first two or three days of the disease. The average duration of this stage is variable, depending somewhat upon the age of the subject. Dr. West, in fifty-five cases, in which the occurrence of the first hoop was ascertained, found it to be 12.7 days; in 1804, in Berlin, it lasted from eight to fifteen days; and in 1838, at Geneva, its length was from one month to six weeks. In an epidemic among infants from the time of birth to the termination of the first year observed by M. Trousseau, it was very short, as in two of fifteen infants it was absent altogether, and in ten of the thirteen others it only existed from one to seven hours. We may, however, estimate its general duration from twelve to fifteen days, and if the symptoms just enumerated appear in a child exposed to circumstances capable of producing this disease, we may be at least allowed to surmise its nature.

The passage from the first to the second stage is rarely abrupt, generally gradual. There is sometimes an intermediate period in which the cough is short, rapid, and repeated eight or ten times in succession without the appearance of the hoop. It lasts for some ten days, and then the pathognomonic paroxysm and crowing inspiration take its place.

When the disease is fully established, these peculiar symptoms are observed. The child is perhaps calm and tranquil, but suddenly and without any cause it seems to have a presentiment of the coming seizure; it becomes sullen, irritable, or anxious, the eye, the face, and the gestures expressing a certain degree of alarm; the movements of inspiration and expiration grow hurried, disturbed, and irregular, and perhaps the infant begins to cry. In most cases these premonitory phenomena are very short, but in some they last for several minutes. If the child be lying down, it quickly assumes the sitting posture; if it be standing it runs a little way to seize firmly some article of furniture, or to cling to the dress of the person nearest to it. Then begins a dry cough, convulsive in its nature, and characterized by a series of sharp jerking expirations, continuing so long that suffocation appears imminent: at the end of a variable time, there is heard a profound sonorous, loud, whooping inspiration, which is followed by the expectoration of a quantity of stringy mucus, or by vomiting. During this paroxysm or kink the face is swollen, and of a red or bluish color; the eyes are filled with tears; the capillaries are injected, the veins of the neck are distended, and the arteries pulsate violently. Blood, sometimes, in a violent attack, flows from the nose and mouth, or even from the ears: it is sometimes extravasated beneath the conjunctiva or into the cellular tissue of the eyelids. Bouchut mentions that he has seen bloody tears, and other authors mention both hæmoptysis and hæmatemesis as coming on during or immediately after the paroxysm. The first hoop rarely terminates the attack. It is succeeded, perhaps, by a little rest, but the cough shortly reappears with renewed energy, and is cut short by another hoop, and so on for a succession of these kinks. The length and intensity of the paroxysms are in proportion to their number, as are likewise the injection of the countenance, the anxiety, and the jactitation.

In some children, one single expiratory cough is immediately followed by a hoop followed by another cough and another hoop. Barthéz and Rilliet have counted fifteen or twenty such expirations and inspirations in a paroxysm from one-half to three-quarters of a minute in length. In very young infants, during the first year, the hoop is less prolonged and sonorous than in patients of a greater age, but the symptoms of asphyxia are more threatening and pronounced. During the attacks the limbs of the child are contracted; its body, and the neck, shoulders, and the head, are covered with a cold clammy perspiration; there are, as I have said, vomitings, and sometimes involuntary evacuations of urine and feces; sometimes prolapsus of the rectum; sometimes the formation or reappearance of herniæ. The pulse is small and weak, and the convulsive condition of the organs of respiration may even expand into general convulsions.

After the end of the paroxysm the child appears exhausted, and requires some time to recover itself. The eyes are still injected and watery, the neck and face are swollen, and the latter has an expression of fatigue; the respiration and the pulse are accelerated: the skin is warm, and the limbs are trembling. Some children immediately begin to cry. However, these phenomena do not endure for a very long period; the child lies down and rests for a while, and then returns to its usual occupations. There is no fever, and no loss of appetite in ordinary cases, but it retains its usual interest in its games and amusements, or applies itself with undiminished vigor to the breast of its nurse. If, however, the attacks of coughing are very severe and follow each other very quickly it seems pallid, languid, and depressed.

The length of the intervals and the duration of the paroxysms are very variable; it is impossible, as regards this point, to establish any general rules. At first, and when the disease is severe, the kinks come on frequently—some authors say every five or ten minutes, some every half-hour, and some from twenty to seventy-two times in the twenty-four hours. They increase in frequency, how-



ever, during the first two or three weeks of the disease, or until its twenty-ninth or thirty-eighth day. Their usual duration is from one to five minutes, and a succession of them has been observed to last even as long as a quarter of an hour. They may be either regular or irregular in their return; and may appear to supervene spontaneously. A full meal may bring them on, or a fit of anger, or crying, or fright, or laughter. So, also, may a change of position, rapid deglutition, the impression of cold, the inspiration of too dry an atmosphere, or of one charged with strong perfumes, or with smoke, or likewise violent exercise, or the accumulation of mucus in the bronchi, especially if the secretion be profuse. It is remarkable, also, that sympathy will have the same effect, for if several children laboring under whooping-cough be brought together and one of them commences coughing, the others will join in chorus; "so that," says M. Bouchut, "several times in fact, it has been impossible for me to remain in the ward of these little children, so distressing to the ear was the noise which accompanied their efforts of coughing."

## Original Communications.

### TWO CASES OF INTUSSUSCEPTION OF THE SMALL INTESTINES, IN CHILDREN.

By J. LEWIS SMITH, M.D.,

LECTURER IN THE UNIVER. MED. COL., PHYSICIAN TO THE ORPHANS' HOME AND ASYLUM.

**CASE I.**—This case occurred in the practice of Dr. Macfarlan, of this city, but was visited by me, in consultation, at his request. The history of the patient was as follows:—Its health had been uniformly good, and nothing unusual was observed in its condition, till the age of four and a half months, when it became restless as if in almost constant pain, with occasional exacerbations. Castor oil was prescribed, which operated freely, and then the following mixture. *R. Magnes. calcinat. ʒj.; tinct. opii camphor. ʒij.; tinct. asafoet. ʒss.; aq. anisi ʒj.*—*M.* Dose, ten to twenty drops, repeated according to the pain. These remedies failed to give relief, as did also chloroform, given in doses of two drops. After two or three days, another set of symptoms arose, those characteristic of pneumonia, namely, hurried respiration, accelerated pulse, short suppressed cough, and expiratory moan. He was treated with the oiled-silk jacket, moderate counter-irritation, and expectorant mixture containing carbonate of ammonia, and in a few days the pulmonary disease was evidently subsiding, but the pain in the abdomen, more intense at intervals, continued. His countenance was pallid and bore an expression of suffering. There was no distension or tenderness of the abdomen, and no abdominal tumor. He took little nutriment, and seldom vomited. In the last part of his sickness the dejections were scanty, and the three last days the stools, instead of being feculent, consisted of mucus and a little blood. Finally, the pain seemed to be growing less, when he was seized with convulsions, and died the same day, precisely two weeks from the commencement of his sickness.

**Sec. Cadav.**—Head not examined; body slightly emaciated; mucous membrane of trachea and bronchial tubes vascular; posterior portion of the lower lobe of each lung, solid, of a greater specific gravity than water, and not susceptible of inflation; it was in the second stage of pneumonia. Stomach, duodenum, jejunum healthy. In the upper part of the ileum was an intussusception, two-thirds of an inch long, presenting no trace of inflammation, either within or around it, and its vascularity not notably increased. Above the intussusception the intestine was empty; below it, and chiefly in the small intestine, was a dark-colored substance; evidently blood, and giving in a few hours the offensive odor of decaying animal matter. There was a

passage through the intussusception, at least two or three lines in diameter, as shown by a probe. The intussusception sustained sixteen inches of the intestine, with its contents, without being drawn out, and it would apparently have sustained considerably more. The remaining organs were healthy.

**CASE II.**—Male, died at the age of nineteen months, the last eleven of which he was under observation. The mother states that he had never been well since the age of one month, and that there had been little variation in the symptoms of his disease. During the period in which he was under observation, he was ordinarily fretful, and frequently seemed to be in considerable pain. His stomach, through this whole time, was so irritable that he rarely took more than three or four spoonfuls of nutriment without vomiting. There was, usually, more or less diarrhea, but no tenderness or distension of abdomen. He grew slowly, but gradually, more emaciated, and finally died in a state of extreme emaciation and exhaustion. He had no convulsions, and was conscious till the last.

**Sec. Cadav.**—Brain not examined; lungs healthy, except a circumscribed portion, which was inflamed, at the summit of the right lung; liver small, and almost destitute of oily matter, as shown by the microscope. In the jejunum, about two feet below the stomach, was an intussusception, two inches long, the intestine forming which seemed to have undergone no structural change. Above the intussusception the intestine was of small calibre, and entirely empty, and pale; below the intussusception the intestine was somewhat larger than above, but it seemed quite healthy. The invagination was sufficiently pervious to allow water to pass through it, and it readily sustained the weight of two feet of intestine. From eight to ten inches below this intussusception there was another, which was immediately drawn out, the moment the intestine was disturbed. The other abdominal viscera were healthy.

**Remarks.**—Cases like the above are rare, or at least have been rarely observed. M. Rilliet—and of the standard writers on diseases of children, no one has given more attention to the subject of intussusception—states that this disease, almost always in the young child, is seated in the large intestine, whereas in older children it is sometimes in the larger and sometimes in the small. "\*\*\*\* Et occupe presque toujours le gros intestin, dans la première enfance; tantôt cet organe, tantôt l'intestine grêle, dans la seconde enfance." In a statistical paper on intussusception in children, published by myself in the *Amer. Jour. of Med. Sci.*, Jan., 1862, there are brief records of fifty cases, and in all those in which post-mortem examinations were made, the disease was seated in the large intestine. But we see from the above cases, that intussusception, persistent and irreducible, occurred in the small intestine in one child of four and a half, and in another of nineteen months.

In each patient, the intussusception was so firm as to sustain considerable weight, and yet there was no appearance of inflammation within or around the mass, and none, or but slight, of congestion. In the first case blood had escaped, in considerable quantity, from the incarcerated intestine. Whether there had been in this patient, towards the close of life, strangulation producing congestion, which was relieved by rupture of the capillaries, in the same way that meningeal apoplexy relieves congestion of the membranes of the brain, in the infant, or whether the capillaries were ruptured by attrition of the mucous surfaces, from the forcible peristaltic and vermicular movements, is doubtful. There was no appearance at the autopsy, in either case, of strangulation, for there was no accumulation or distension, above the seat of the disease, and the invaginated mass was pervious. It is evident, however, that perviousness after death does not show that there was perviousness previously, since at death the tonicity of the muscular fibres of the intestine is lost. On the whole, it seems probable, from both the symptoms and post-mortem appearances, that while in the second case there was no strangulation, in the first strangulation was present in the last

three, and perhaps five or six days of its life. This, as regards the first case, is the opinion of Dr. Macfarlan, who saw the child daily from the beginning of his sickness, and examined its symptoms carefully.

Intussusception, in the infant, is usually accompanied by more or less tenesmus. Its absence in the above cases, was, no doubt, due to the fact, that the disease was seated in the small, instead of the large intestines. In place of tenesmus, there was in one case pain more or less constant, and with exacerbations; in the other, fretfulness.

The time at which invagination occurred in the second case, is doubtful. There were symptoms of disease, or derangement of the bowels, during the greater part of the child's life, and no new symptoms arose, to indicate the commencement of intussusception. Could the intussusception have been present for months? Its relation to the derangement of the bowels is uncertain. In my statistical paper, allusion is made to the statement of some Continental observers, that this disease in the child, after continuing for an unusually long time, may gradually subside, and health be restored, without sloughing of the affected part. Bouchut says: "Amongst other children, the disease lasts a much longer time, but the vomitings gradually cease, the intestinal hæmorrhage disappears, the strength returns, and the health becomes restored again, without the expulsion of fragments of the intestine. M. Killert, who points out this possibility of the cure of intestinal invagination, observes, that it always takes place in this manner." (Diseases of Children, trans. by Bird, page 493.) As reduction of an intussusception is ordinarily followed by immediate, and not gradual recovery, it seems as if these observers alluded to a favorable termination, in which neither reduction nor sloughing occurs. This was to me inexplicable. Of the fifty cases contained in my paper, and which were collected from Continental and British, as well as American Journals, there is none which terminated in this way. The majority of these patients died, and the few who recovered, owed their safety to the separation and expulsion of the invaginated mass. The above cases, however, may throw light on this point. Although both died, the intussusception, which we have seen was similar in the two, was of such a character, that it did not seem to render death inevitable, even if there were neither reduction nor sloughing. Possibly the more favorable cases of this form of intussusception may recover in a "gradual" way, whatever may be the anatomical alteration which the affected part finally undergoes.

174 W. 49th st.

## BROMINE IN HOSPITAL GANGRENE.

By R. L. STANFORD, M.D.,

SURGEON U.S.V.

JOHN HUBER, a private of Stone's 1st Kentucky Battery, entered Hospital No. 12, Louisville, Ky., Jan. 8th, 1863, from Hospital No. 7, Perryville, Ky. He received a gunshot wound in the thigh at the battle of Chaplin Hills; amputation at the junction of the lower with the middle third of the femur was performed four days afterwards.

When he entered this hospital the stump was doing well. On one side, from the outer angle formed by the flaps up to and over the centre of the bone, had been repaired perfectly, and the skin renewed over the whole surface. Healthy granulations were seen filling up the wound on the inner side. The reparative process continued from this time up to March 18th, when a small spot, about the size of a ten cent piece, was discovered to be of a dark purple color, occupying the angle of the flaps on the inner side of the thigh, the purple hue extending above and beyond the edges of the wound for a distance of about one inch. A small, dirty colored, pulpy mass was also seen within the wound. From this dirty-looking pulp was also discovered a sero-purulent fluid of a slightly greenish color, which exuded from the parts below and around. From the

wound was emitted an odor, pungent and exceedingly offensive. The skin of the limb, face, and body had changed its color since last examination, having acquired an ill-defined dusky hue. In a word, hospital gangrene had shown itself. The tongue was moist and covered with a dirty whitish fur; cheeks a little flushed. Bowels costive. Pulse 80, weak and feeble. No appetite. Urine highly colored. Countenance anxious. Intellect clear. March 19.—Pulse 100 beats to the minute. Breath emits a saccharine odor, tongue coated with whitish brown fur. Intellect clear. Skin exhibits a dirty yellowish hue, more marked than yesterday, and a few degrees above the normal temperature. Cheeks flushed. Bowels costive. Urine highly colored. Wound emits an offensive odor which can be smelt in any part of the ward. The diffuent pulpy mass of a much darker color than yesterday. A sero-purulent fluid still flowing from the wound. Not having been able to procure pure bromine, I ordered the wound to be properly cleaned of all detached substances, as well as that those which were still adherent be trimmed with scissors down to the sound tissues, after which to apply compound solution of bromine and the parts to be covered with a yeast poultice. Ten drops of muriated tincture of iron were given every six hours. Whiskey, one oz. every four hours. Diet, soft boiled eggs, tea, and bread. On the 20th, symptoms were same, except that the slough had enlarged.

22d.—Pulse increased in frequency. Ulcerative process spreading. I directed the wound to be again thoroughly explored, and the adherent portions of the slough trimmed close to the sound tissues. After which the compound tincture of bromine was again applied, as on the previous days.

On the 24th, a few bright red spots were discoverable in the wound. Treatment consisted of whiskey, quinia, and the daily application of the compound bromine.

On the 25th the wound did not show any further disposition to spread, and lost in a measure the offensive odor. There was, however, not much improvement at bottom of sloughing process. The solution of bromine was injected with an hypodermic syringe into the cellular tissue beyond the sloughing process. The internal treatment was of course continued.

27th.—Pulse 108; tongue commencing to clean from edges to centre; appetite somewhat improved. The dark gangrenous spots in wound have nearly disappeared. Locally, bromine and cinchona poultices as before. 28th.—Wound improving; all the dark or rather black spots have disappeared; there was still emitted an offensive odor. Patient complains of aching pains in and around the wound. Continual bromine solution to wound. 30th.—Wound painful, but improving in appearance.

I have given the treatment of the case for twelve days during which the gangrene gradually spread, destroying the soft parts around the bone and above the end, for a distance of fully three inches, leaving to this extent the femur exposed. From the 30th March up to the 15th April, the case exhibited about the same variation of symptoms from day to day. During the whole of the remaining time up to the 15th April, the wound emitted daily the same offensive and peculiar odor.

The skin increased its dirty yellowish hue up to the 6th April, and remained without material change till the disease was fully arrested. The constitutional symptoms commenced with the first appearance of the gangrene, and persisted until the gangrenous process was entirely arrested. The urine was voided during the continuance of the disease in sufficient quantity, but at all times highly colored. The bowels inclined to costiveness, but were easily moved, continuing to act for several days after a cathartic had operated, and then again became costive, requiring at intervals a mild cathartic throughout the whole time the disease continued. His appetite failed him at the first appearance of the gangrene, and continued with slight improvement, when the wound emitted less offensive odor, and falling

back into the same state when the wound assumed a more unfavorable condition. Except these variations, it continued without improvement during the whole time of the continuance of the gangrene.

Upon the 15th of April I procured *pure* bromine, and immediately had the wound properly cleansed, and applied the remedy to every part of the ulcer, taking steps to be certain that the sound tissues beyond the diseased parts were reached in every part of the wound. The parts were then dressed with a cinchona poultice.

16th. Pulse 96, tongue coated and moist, intellect clear. Countenance bright, bowels regular, urine in sufficient quantity, but still highly colored. The whole surface of the wound almost as black as charcoal. The odor has entirely disappeared from both the wound and breath. Appetite has returned. He now craves meat for the first time since gangrene made its appearance. He says the wound feels sore, but in every other respect feels like a new man. The wound was dressed as before with a cinchona poultice. Discontinued bromine.

17th. Pulse 80, tongue cleaning, mind cheerful. Says he had a fine night's rest. Urine still highly colored. Wound looks better, the black incrustation separating slightly from the sound parts around the edges. Odor all gone, both from the wound and breath. He has a good appetite, and says he now feels like getting well.

From this time he gradually gained strength, and the wound steadily improved. All treatment was discontinued upon the 17th April, except simple dressing. The state of the case was, however, recorded daily until the 22d, when it was thought unnecessary to reduce anything more touching it to writing.

This case exhibits in a marked degree the genuine character of gangrene, and goes a great part of the way towards establishing the important fact that, contrary to the generally received opinion, it is a local and not a constitutional disease. The character and genuine nature of every disease which has not yet been fully established, can only be settled by that sort of experiment which makes everything touching the case a subject of investigation. It is not enough, therefore, to apply bromine to a gangrenous wound, and to see that it destroys the virus, but the exact strength of the remedy should be known, the condition of the ulcerated parts, the mode of application, the way in which the wound was prepared for the reception of the remedy, and all the local, as well as constitutional symptoms, should be perceived and noted at the time of making the application, together with every circumstance that could possibly have a bearing upon the case.

Proceeding in this way, we may not only increase our own stock of knowledge, but may be able to establish facts which will benefit mankind generally.

From my own observation in the treatment of hospital gangrene, erysipelas, and diphtheria, I am entirely satisfied that all of them are local diseases, and may be cured by the use of bromine properly applied. The foregoing case establishes, as far as any single case can do, the efficacy of pure bromine over the compound solution, the latter having been applied daily for the term of twenty-seven days without arresting the gangrenous process, while the pure bromine arrested it upon the first application. The wound was prepared for the reception of the remedy in the same way, and with no more pains than had been taken upon each application of the solution. The constitutional symptoms subsided within twenty-four hours after the pure bromine had been applied; the gangrenous odor disappeared entirely within the first six hours after the application of the pure remedy. Within twenty-four hours the appetite returned, and has continued good ever since. The skin gradually gave up its dirty yellowish hue; the urine also gradually returned to the normal color; the pulse dropped down to eighty, and has maintained that number of beats per minute from the second day after the application of the pure remedy up to the present time.

The patient is now able to walk about the ward, and

would do so if he had two legs. The wound has been filled with granulations, and is being skinned over, there only remaining a small portion upon which the skin has not been renewed, and this immediately around the bone.

If this was the only case I had treated with this remarkable agent, I could not speak in as strong terms as I am now about to do; but I have treated a number of cases that were equally as grave as this one, and with complete success in every instance; and numerous cases in other hospitals have been met, where a like success crowned its proper application. I can say to the profession with unbounded confidence, that we have in bromine an agent that will, when properly applied to gangrenous ulcerations, cure them in every instance with more certainty than quinine cures intermittent fever. Not only will it meet antagonistically the virus which sets up this disease, and destroy it in the wound, but if vapor of bromine be kept in the ward in sufficient amount to be perceptible to the smell, it will prevent the spread of the disease to others, and, more than this, it will cure all the cognates of gangrene arising from like virus. We have, then, in bromine, when properly used, a remedy which will cure many of the most formidable diseases which affect the human family. If what I have stated be true with regard to this great remedy—and I assert that it is, and, moreover, that no one will ever be able to prove to the contrary, if he will but apply the remedy as I will indicate before I close this article—I invite all who have cases under their charge in the Military Hospitals throughout the U.S. to apply at once and without delay this sovereign remedy in the treatment of hospital gangrene, diphtheria, scarlatina, erysipelas, and probably small-pox, as well as in the treatment of poisoning from the bites of insects and serpents. As these diseases are all set up by the application of a virus, and the virus which produces each has an animal origin, I have nothing to lose by asserting that bromine will meet and neutralize the poison which gives rise to each of them. I might go further, and state that there are other formidable diseases which have an animal virus as the cause of their origin in the human system, and which may be met and cured with this remedy; but I will not at present speak of them or of the mode of applying the remedy. I look upon the use of bromine, in the treatment of the diseases which I have specified, as being fully able to strip them of their heretofore formidable character, and they may now be placed in the category of such diseases as can be as easily managed and cured as scabies.

To Surgeon M. Goldsmith, of the city of Louisville, Ky., belongs the credit of this treatment. Although he has not, as far as I am informed, treated many cases himself with the remedy, yet he conceived its powers over the class of diseases which I have specified, and recommended its use in the military hospitals in and around this city. The surgeons commenced experiments with this remedy last winter, and the results have equalled the most sanguine anticipations of not only Surgeon M. Goldsmith, but, as far as I know, have met the expectations of all who have used it, since his recommendation, in the military hospitals of this place. So confident are all who have used the remedy that they can not only cure hospital gangrene with it, but that they can also prevent it spreading, that no one here ever separates patients having gangrene from other wounded patients in the same ward. I hope, however, that no one will, without giving this remedy a fair trial, presume so much against the just praise which I have bestowed upon it as to pass along the line of the old routine practice, thinking, as is too often the case, that the praise bestowed upon it is idle. I am fully aware that I have used strong language, yet I feel confident that, when the profession comes to apply this remedy in the treatment of diseases as I have done, I have nothing to lose by the use of a single word which presents the facts in its favor.

As to the proper use and application of bromine in the cure of gangrene, I will make the following statements:—The pure bromine should always be used in the treatment of



gangrenous sloughing in preference to any solution which can be made. The wound should be properly prepared for its application, and then the remedy should be properly applied. Every part of the pulpy mass, and detached debris, should be removed from the wound, as far as possible, without injuring sound portions of tissue in the wound. To this end the undetached pulp should be dissected away with forceps and scissors. The wound should then be thoroughly washed with warm water, after which it should be dried with a sponge, and then with the rounded end of a spatula scrape away any remaining portions of the lifeless tissues which may be still adherent, yet capable of being removed without too much injury to the adjacent sound parts. This done, wash and dry the wound as before directed, and then apply pure bromine to every part of the diseased surfaces, taking special care not to be deceived as to the certainty of having reached with the remedy every gangrenous point, some of which may lie beyond the common surfaces, the virus having travelled out of sight in and along the cellular tissue. To make the application certain, and beyond the possibility of deception, a small round end of a glass test-tube should be used, or some other instrument answering the same purpose, with which the bromine should be pushed into the cellular texture, and thoroughly stirred in every part of the wound. If these directions be strictly followed, it will rarely be necessary to make more than one application of pure bromine. The second application should not be made within the four first days after the first application. If the odor peculiar to the disease is entirely removed by the first, the second application should not be made; but if at the end of the fourth day there is any remaining odor, the surface which was charred by the remedy may be removed, and it will then be easy to discover what points in the wound have not been reached by the former application: these alone should be touched with the remedy. After the patients have received an application of the remedy, the gangrenous surface may be covered with a yeast or cinchona poultice, or, if the surgeon chooses, he may dress it with lint or simple cerate.

## Reports of Hospitals.

### U.S. GENERAL HOSPITAL, ANNAPOLIS, MD. COMPOUND GUNSHOT FRACTURE OF THE FEMUR, TREATED WITH SMITH'S ANTERIOR SPLINT.

By B. B. MILES,  
ACTING ASSISTANT SURGEON U.S.A.  
(Continued from page 14.)

In the treatment of fractures of the extremities, the general indication is to furnish mechanical support that shall supersede the office of the injured bone in maintaining the form and length of the limb, until union shall have taken place. The apparatus which I am about to describe is applicable to all fractures of the thigh and leg. I shall describe its employment in the treatment of fractures of the thigh. The splint now in use is made of wire, and is constructed of one piece of wire bent twice at right angles upon itself at the extremity, being three inches wide at its upper, and two and three-fourths at its lower extremity. It should be long enough to extend three inches above the anterior spinous process of the ilium, and three or four inches beyond the toes. This would make it three feet and ten inches for an adult. Support is given by cross pieces clenched upon themselves. The splint is then to be bent, the lower angle to correspond to the foot, which is from 120° to 125°. The angle at the knee is very obtuse, about 160° to 165°. The angle at the hip should be of the same degree. It will often be necessary to vary these angles to suit particular fractures. The angles are easily made by bending the splint over the margin of a chair.

The splint is now to be wrapped with a bandage, and is ready for application. The suspensory apparatus consists

of a small iron pulley, which is to be fastened to the ceiling over the patient's bed, nearly the middle of the tibia. A cord about half the thickness of your finger is to be passed over the pulley, and through a small tent block, by which you are able to elevate or depress the limb. This cord has a loop attached to its end about two feet above the limb. Through this another cord about five feet long passes, and hangs double from the loop; each end has a claw or hook attached, which is made of wire the width of the splint; the points sharpened and turned inwards to embrace the wire splint through the bandage, which prevents them from slipping. In the application of this splint the limb is carefully adjusted, and supported by the hands of an assistant. The splint is now to be laid along the anterior aspect of the limb, placing compresses underneath at the hip and instep. Five pieces of bandage, long enough to embrace the limb and splint; one under the foot, one around the ankle, the third beneath the knee, the fourth above the knee, and fifth around the thigh; all these strips are to be fastened on the top of the splint with pins, and now the hooks are to be applied. In fracture of the middle of the thigh, the upper hook is to be placed over the seat of fracture, and the other above the middle of the tibia. The limb is now raised from the bed, so as to allow the free application of the roller, which, commencing at the foot (care being taken not to press the limb up against the splint), is carried up along the leg and the thigh; on reaching the hip a few turns are to be made obliquely through the groin and around the pelvis. In regard to suppurating wounds, an independent bandage is to be applied. Next in order is the application of extension and counter-extension (this, although simple, seems to be the great objection with many of the surgeons). This is made by moving the head of the bed backwards, so as to give obliquity to the suspending cord. Counter-extension is made by the body; and to obviate the descent of the body towards the foot of the bed, a brick or block may be placed under the foot of the bedstead. The limb should be raised high enough to lift the limb clear of the bed.

What have we accomplished?

1st. The limb rests on the turns of the bandage, and cannot change its position even when the body moves, for it is carried with it.

2d. As above stated the splint is secured to the pelvis, and the limb moves with the trunk, which always retains the same position to it.

3d. Should the body be moved to the right or to the left, this will not change the relations of the upper and lower fragments.

4th. regard to the deformity, the regular pressure of a well adapted bandage, assisted by the obliquity of the cord, which has a tendency to straighten the limb and resist all deformity.

5th. The artificial construction of extension will be seen by the obliquity of the cord, which is changed to suit each particular case, and which renders it unnecessary to be tightening and loosening the bandage from day to day.

6th. Should the body have a tendency to descend towards the foot of the bed, the limb swings upon the cords, and the fragments are prevented from being jammed upon each other.

This splint is adapted to all fractures of the femur, and to none is it more appropriate, and in none has it accomplished more satisfactory results, than in gunshot fractures caused in the present war.

It has been the opinion of our most eminent surgeons to reject all mechanical means in the treatment of fractures of the neck. Now, if we can furnish any comfortable support to the limb, allowing the leg and trunk liberty, should it not be employed even for that? In treatment of the cervix, that portion of the splint which extends beyond the groin (or pelvic portion) is very important, and should extend well upon the trunk, and should be well secured to the trunk by the bandages. The extending apparatus is also im-



portant, and the obliquity of the cord should be well watched. The great advantage which this splint possesses over other apparatus is, that it raises the injured thigh from the mattress, permitting a free circulation of air, and preventing the accumulation of pus, and whatever dressing is used from excoriating the skin, and thus affording an easy and convenient access to the wounds, also enabling us to clean the patient's person; lastly, it gives the patient the greatest amount of comfort, giving him the privilege of changing his position *ad libitum*.

This splint was the invention of Prof. N. R. Smith, of Baltimore City, Md.

## FOREIGN CORRESPONDENCE.

## LETTER XL.

By PROF. CHARLES A. LEE.

ROME.

Nov. 26, 1862.

It was with no little interest and curiosity that I entered upon a systematic examination of the hospitals of Rome, believing, as I do, that the ability, zeal, and success with which such institutions are managed, mark, with very accurate certainty, the degree of civilization, if not Christianity of a people. I had visited, with equal pleasure and surprise, the magnificent hospitals of Venice, Padua, Verona, Bologna, Florence, Pisa, Leghorn, Naples, etc., so far exceeding my expectations in everything connected with efficiency and successful management; and I have not been disappointed in my expectation of finding the hospitals of Rome creditable to this seat of the Fine Arts, and the centre of the Catholic world. Accompanied by Dr. O'Flynn, Surgeon to the late Irish Battalion in the Papal service, and now in attendance on the Papal military hospital, I have successively visited all the Roman hospitals, and will speak of them briefly in the order of visitation, or, at least, the most important of them.

We first visited the great hospital of *San Spirito*. This stands on the right bank of the Tiber, near St. Peter's. It is said to have been founded by a Saxon king, who, having abdicated his throne and become a Christian, took up his residence in Rome in 728, and here founded a hospital for the relief of his countrymen. It was, however, greatly enlarged at the end of the twelfth century by Innocent III., and has gone on increasing so as now to form almost a small town within itself, being very richly endowed; not only possessing large landed property in the city, but also much of the territory between Rome and Civita Vecchia. This Pope confided it to the *Brothers of the Order of San Spirito*, from which it derived its name. Successive Popes have done much to enlarge and enrich it. Benedict XIV., e.g., in 1751, added a museum and anatomical theatre; the museum was increased with very choice specimens by Pius VI.; still Pius VII. added dissecting-rooms, baths, and many other requisites. The most important repairs, however, in its management and administration, as the Romans think, have been made by the present pope, Pius IX., in the appointment of twenty Capuchin priests to its spiritual assistance, and the erection of a house for them within the inclosure, so that some of them might be in constant attendance on the patients both day and night. The entire establishment consists of a male and female hospital, entirely distinct; divided, as usual, into medical and surgical wards, clinical wards for each sex, with a lecture and operating-room adjacent; a military hospital for the Papal troops, a foundling hospital, and a lunatic asylum. There is space for about 2500 beds in the civil hospital, though ordinarily there are only about 650 medical and surgical cases in the wards. There are, besides, 450 lunatics. 15,000 patients are annually admitted; the mortality averaging about eight per cent., or even less. During the summer months the wards are filled with cases of intermittent and remittent fever from the Campagna, as well as large numbers from the city; in the winter season the number is

greatly reduced. The small amount of mortality is attributed to the great proportion of malarious diseases admitted, which are usually promptly cured by large doses of quinine. I counted about twenty beds in the clinical ward, some of them unoccupied. There is a tolerable pathological museum in the hospital, as well as a collection of instruments, and a library, most of which were bequeathed to the institution by the eminent physician, Lancisi. The *Foundling Hospital* in San Spirito is capable of containing upwards of 3000 children; the number annually received is somewhat less than 1000. Statistics, in Rome, I believe, are only published once in five or ten years, and the last report I have seen gives 2941 deaths out of 5382 children received in a period of five years, showing a mortality of 57 per cent. A large proportion of the foundlings are sent into the country to be nursed, where the mortality is far greater than in the city. The recent mortality, it is said, is much less. I may remark that there are several other foundling hospitals in Rome, so that the number of foundlings is over 3000 annually; and they offer such facilities for admission that children are brought here from all parts of the Papal States, especially Sabina, Frosinone, Velletri, and the Camarca, and even from Southern Italy.

The *Military Hospital* on the opposite side of the street to the main buildings has only been in operation during the last year, the military patients having formerly been mixed with the civil cases. It consists of one immense ward, several hundred feet in length by forty-five in width, and perhaps equal height, allowing of two rows of beds on each side. Its general management is under the direction of the minister of war, M. Merode. The improvements recently made indicate that in a short time it will not suffer by comparison with any hospitals of the kind elsewhere. In the civil hospital there is one ward exclusively for wounds, casualties, and fractures, of which *cuts and stabs*, I was informed, constituted the largest proportion. There were three tiers of beds on each side of the wards, yet such was their immense size and lofty ceilings that I perceived no hospital smell in any part of the building. Although there were canopies for curtains, I saw none in use. I was happy to notice that the windows, which were opposite, and perhaps thirty feet from the floor, were kept constantly open, and a free current of fresh air continually supplied. The only things which strike one's attention as somewhat incompatible with our notions of comfort, are, the cold brick floors, without any covering whatever, and the absence of all means of warming, unless it be one or two small stoves. The Italians, however, it must be considered, have no idea of comfort in our sense of the word, and they rarely have fires in the winter even in their own houses. Besides, the winter climate here is mild, the temperature being seldom below 50° F. The hospital beds were very clean and neat, the bedsteads of iron, as they are in all the Roman hospitals, and the sacking stuffed with wool. The floors were clean; the nursing kind, assiduous, and intelligent. The military patients were served by twelve Sisters of Charity, the only nurses of the order in attendance on any of the Roman hospitals, although there are about forty in all in the city, the others being engaged, I believe, as private nurses. The sisters of this order have never been very numerous in Rome, as considerable jealousy exists towards them on the part of the other orders.

It has been ascertained that of the foundlings of Rome two-thirds, at least, are illegitimate, the remaining being the offspring of poor or heartless parents, who, from various motives or causes, adopt this mode of getting rid of them. In many instances, where the family is too needy to support all the children, one or more are stealthily committed to the wheel of the Foundling Hospital of San Spirito, with some mark on its dress by which it may be registered and afterwards identified and claimed. In many instances the poor mother is too delicate to furnish sufficient nourishment for the child, and too poor to provide a nurse for it, and it is sent accordingly to the asylum; and so it fares

with the rickety, malformed, or diseased infants that do not seem, and really are not worth raising; and this is one cause of the great mortality. This facility of providing for offspring renders infanticide so rare that it is rarely or never heard of in Italy; and although it may have some tendency to promote illicit indulgences and sexual vice, it cannot be denied that it does away with all temptation to destroy offspring. In London and all the large towns of Great Britain infanticide is of daily occurrence, if we are to believe the statements of the English papers, and yet in point of morality they cannot compare with Rome and other large Italian cities, judging from all one can see or hear. I have been much in the street at night, but I have never yet seen a *street-walker* or a female who would even be suspected of prostitution. Whatever objections may be urged against foundling hospitals, I cannot but believe, from what I have observed here and elsewhere, that when under the protection of the state, and managed by a body of religious women, as they are here, whose lives are wholly devoted to its duties, and acting from high Christian motives, they are of the greatest utility and necessity. There are rarely more than fifty or sixty children at one time in this institution, as they are generally sent into the country soon after they are received. The Italian, perhaps I should say continental custom of swathing, strapping, and bandaging, prevails here to its fullest extent; and it is difficult to understand how any of these little animated mummies ever survive the treatment. The institution furnishes an excellent opportunity of seeing cases of congenital or transmitted diseases; of these, scrofula and syphilis are the most frequent; *ophthalmia neonatorum* is also quite common, and not a few lose their sight entirely. I doubt whether sufficient care is always taken to prevent the communication of this malady, although neatness, cleanliness, and good order appeared to prevail in every part of the establishment. The register shows great care in noting down every particular in regard to the reception of the child, as the day of the month, the hour of the day, its name and parentage, if any be given, and, in addition, a crucial incision is made on the top of the right foot, and a black dye introduced, which remains indelible. The clothes are minutely examined to see if there be any mark, ribbon, coin, or medal, by which the child may be afterwards identified, and if there is, it is carefully preserved, and a record made of it. If there is no evidence that the child has been baptized, it is taken to the church at once, and the rite there administered. There are three large rooms occupied as nurseries, each containing about fifty beds for the nurses, each bed having a cradle on each side of it. One of the rooms is used exclusively as an infirmary. There is no difficulty in finding plenty of nurses, as there are certain days of the week appointed for applications to be made; all applicants being obliged to bring certificates from their parish priests and deputies as to character, age, health, capability, and means, and also, which is no less important, in regard to the birth and death of their own children. The chief reason assigned for the latter is, that otherwise women might send their own children to the asylum, and afterwards apply and support them at the expense of the institution. On receiving an infant the nurse is presented with sufficient clothing, marked with the sign of the cross, and is paid at the rate of one dollar a month for fourteen months; after that time nursing a *pane*, as it is called, commences, and is continued till the age of twelve for boys and of ten for girls; for the first six months at the rate of sixty cents a month, and after that forty till the time expires. It is said that the nurses have a stronger affection for the boys than for the girls, and take better care of them in hope of adopting them when they are grown, and deriving advantage from their labor. When the time is expired the boys, if not adopted, are sent to the orphanage of the city of Viterbo (*S. Maria della Provvidenza*), where they are maintained, clothed, educated, and instructed in some trade or art till the age of twenty-one, when they are furnished with ten dollars, and dismissed to make

their way in the world. Where a boy is bound out or adopted, obligations are required that he shall be trained and educated in the same manner and until he arrives at the same age, when he is to receive the same sum, and may remain in the family or go where he pleases. In regard to girls, they must be supported in the families where they are received till they are married or enter a convent; if married, they are to receive twenty dollars, but as there are various dowries established for illegitimate girls, a most benevolent and praiseworthy provision, they may receive a hundred dollars or more, which is no small fortune in Italy. After the girls are weaned, they are returned to the institution, as a general rule, where they form a large establishment of several hundred, and where they are carefully trained and educated; and if they marry, each one receives a hundred dollars. Many kinds of feminine work are carried on in the institution, such as sewing, knitting, embroidery, etc.; the manufacture of wool and hemp was introduced, indeed, at a very early period in its history. One cannot walk through the departments of the adult female foundlings without a feeling of satisfaction and real pleasure, for they are models of neatness and good order, while the occupants are cheerful, industrious, and tidy. In one apartment we see them pursuing their studies, in another their work, in another still, they are receiving religious instruction from some of the nuns. Thus are these poor abandoned children nursed, watched over, trained, educated, and provided with a dowry; in short, everything done that is possible to compensate for a parent's care and affection, and even to efface the ignominy of an ignoble birth. The whole system is only Christianity in action, and does honor to the church which originated and carries it on. Indeed, it is due to truth and justice to say that the Catholic church has, from the earliest ages, paid much attention to the protection and education of exposed or abandoned children, whatever their origin or parentage. It was even made a subject of earnest discussion in various Councils as far back as the fourth century, or even earlier. The tenderness and compassion of Christian affection were substituted in the place of pagan cruelty, neglect, and remorselessness, and we find Constantine, the first Christian emperor, devising measures to assist those who, from poverty or other causes, could not support their children. One motive which evidently influenced him was to prevent infanticide, a very common crime at that period, and one that we find to have been generally practised, not only throughout Greece, but every part of the then known world. Early records show, moreover, that it was common in the early history of Greece and Rome, and was not regarded as a criminal act. It was an archbishop of Milan, in the year 995, who opened the first asylum for foundlings, and that in his own house. Not only this: he left all his wealth for its support, directing in his will that the children should be maintained till the age of nine, and then taught a trade. Pope Innocent III., also, in the twelfth century, collected all abandoned children, whatever their parentage or origin, and opened an asylum for them in a department of a building which he had prepared as a hospital for the sick; and in 1638 St. Vincent de Paul, who is justly regarded as a saint by the Catholic church, opened a similar institution in Paris; and it was not till the following century that London followed the example.

P. S.—This is the rainy season in Rome; the weather, though mild, is not favorable to invalids, it being wet, damp, and chilly. There are many strangers here laboring under or threatened with pulmonary disease; but the crowded state of the Protestant burying-ground and the early ages of most of the deceased, show that this climate is no panacea, and that many, at least, of those who come here for health find it only a final resting-place.

THALLIUM.—The largest ingot yet produced of this new metal was lately exhibited at the Royal Institution, London. Its weight was 5,943 grains.

# American Medical Times.

SATURDAY, JULY 18, 1863.

## LIFE-SAVING IN WAR.

BATTLES more sanguinary than the series of terrible conflicts that had preceded during the two years of war have just been fought near the head-waters of the Potomac. From thirty to forty thousand veteran soldiers were numbered among the killed and wounded. Nearly two hundred thousand men were pitted in hostile array, and three hundred cannons thundered the murderous voice of battle. The national army triumphs, and though it proudly adds the enemy's hecatombs to its own wounded, the Surgeon-General unhesitatingly assures the public that his Medical Directors have "plenty of surgical aid."

Before Vicksburg, and the Gibraltar of the Mississippi, other armies, corresponding in magnitude to the army of the Potomac, have successfully undertaken the serious task of siege operations; while upon the Tennessee, and at various points in the South, the loyal troops are vigilantly pressing forward. Skirmishes, sharpshooting, hideous shells, explosive mines, trench work, with unceasing vigil and labor, yet fail to overcrowd the field-hospitals or overburden the medical staff.

The present condition of the national forces, vast as the numbers are, is demonstrating the sanitary advantages of great activity in armies. An unusually good state of health prevails among all our forces. And now have come the notable occasions when the surgeon's skill is appreciated above all rank and military titles; for the prowess of that skill is readily and gratefully acknowledged amid the battle scenes where death is braved, and surgery's boldest acts are with equal fortitude demanded by heroic men. Truly has it been said that "Chirurgery triumphs in armies and in sieges—'tis there its empire is owned, 'tis there its effects express its eulogium." But let us not mistake what constitute the highest triumphs of surgical art.

For the sake of humanity, and for the honor of our profession, we hope that the passion for "high surgery" and capital operations, for vainglorious purposes, has no chance for indulgence upon the recent great battle-fields. The wounded heroes of battle, and the people in whose behalf the war is waged, will bestow honor and gratitude upon those surgeons who best succeed in *saving life*. Already has the simple record of many a humble military and hospital surgeon made him the unconscious subject of honorable mention in official and professional circles, and the object of the fervent gratitude and prayers of those who have experienced or learned of his faithfulness and skill in saving the lives and the limbs of his patients. The successful and conservative surgeon, whose judicious and humane appreciation of the methods, time, conditions, and place of necessary operations, is fully equalled and scrupulously accompanied by most faithful attention to all the hygienic conditions and appliances that influence and determine the results of wounds and surgical operations, is now the surgeon most honored. At Cedar Mountain, and during the disastrous battles that were arrested at Chantilly last year,

was seen an efficient and modest young medical officer absorbed in the duty of providing for the proper nourishment and hygienic care of the wounded as they fell and were gathered to the ambulances and field-hospitals. To that duty he had been assigned in a certain *corps d'armée*, and with marvellous success did he succeed in supplying much-needed nourishment and stimuli to the thousands of wounded men who were being brought in and moved forwards from day to day. His charge related wholly to the principal hygienic wants of the wounded as they were temporarily gathered by the ambulances, and moved forwards by railway. A few weeks subsequently, in a sheltered oak-opening upon the Antietam, in a field-hospital, with only tents for the covering of his patients, the same unpretending surgeon was found wholly absorbed in charge of a small division hospital filled with severest wounds, which presented such results alike of good surgery and perfect hygienic care as we never witnessed in civil hospitals. The excellence of his administration and his surgical skill soon brought official orders for placing a thousand patients under his care; and unconscious of the honor he was winning, that surgeon gave his whole attention to the work of life-saving by the only sure means of complete hygienic care following wisely elected operations or avoidance of operations. His was a model field-hospital, and the almost unparalleled success of his surgery taught lessons that no surgeon who visited his "hospital in the grove," felt unwilling or too old to learn. The number of precious lives saved by that humble officer's intelligent comprehension and faithful execution of his peculiar duties during the two brief campaigns of last autumn, will cover him with truer glory than that of storming a series of batteries; and we adduce this instance of professional faithfulness simply to illustrate our subject in reference to a particular field.

It is as honorable to our profession as it is creditable to humanity, that the head of the Medical Bureau, and the Chief Directors of the Staff, are giving great attention to measures for insuring the best results of operative surgery, and the greatest effect to conservative means for diminishing the amount of capital operations. Life-saving by hygienic means, as well as by wisely elected operative measures, is producing results in the field, as well as the general hospitals of the army, such as will command the attention and respect of the medical world. The unfortunate presence of a few renegades and charlatans in our regimental service will not be allowed to greatly modify the general results, for such unworthy officers are readily kept *sub jugum* by their superiors. Yet we have seen enough of bad work in the care of the wounded after the great battles, to lead us to implore again all our medical officers to double their diligence in the hygienic and conservative measures that are so essential to life-saving in the field-hospital and the surgical ward.

But great as the fields, and vast as the opportunities are for the redemption of life and of limbs from the carnage of battles, where

" . . . For want of timely aid  
Thousands die of mediceable wounds,"

there is another and far greater field in which much life has been cruelly wasted during the progress of the present war, a field in which, indeed, more lives have been sacrificed than upon all the battle-fields. And this murderous *Aceldama* is far away from the seat of war and



its exposures and life risks. It is at home—in our recruiting offices, our barracks, quarters, and encampments for enlisted men in the States, and at the various military depots.

In three successive years three immense armies of volunteer soldiers have been called into the national service. Unaccustomed to camp and military duty, fresh from the avocations of common life with all its comforts and luxuries, upwards of a million citizen soldiers from the loyal States have already passed through severe campaigns and many sanguinary contests. And now another grand army is about to enter into the terrible struggle. Three hundred thousand strong, this freshly marshalled host is to be added to the veterans in the field, and be thrown upon the rebel forces at the South.

The new army, like the soldiers who have preceded it, will represent the homes and hearts of the people, and the hope of the nation; and, in even larger measure, will it represent the intelligence, virtue, and wealth of the land. In the name of the people, and on behalf of the homes, the affectionate hearts, and the priceless interests of the nation, which the army thus truly represents, its strong arms and devoted souls not only ask to be so led as to confront successfully the rebel forces, but to be so treated and so managed in camp, in drill, in discipline, and upon the march, that the precious lives of those volunteers shall not be wasted, nor the martial strength of the forces fail when the days of trial come.

Already in the progress of the war the number of soldiers discharged from service upon the surgeon's certificate amounts to considerably more than one hundred thousand, while the average constant percentage sick in hospitals from other causes than wounds, in all our armies, is probably about *seven per cent.* of the entire force. What proportion of the invalid discharges from service, or of the hospital population, has thus far been comprised of the classes of enlisted men who either were primarily unfit for military service, or who from the insanitary management of recruits were broken down previous to active service, we trust will be faithfully shown by the statistical bureau of the Sanitary Commission, and the Medical Department of the Army. It may safely be estimated that fully *sixty per cent.* of the invaliding and sickness has been due to those readily removable causes; while of the deaths from disease it will be found that a still larger percentage of the total number has been due to that class of evils to which we now allude. One of the Sanitary Commissioners ascertained upon personal inspection and inquiry, that of nine thousand select and rapidly enlisted troops that last arrived at the New York rendezvous from New England, about *thirty-three per cent.* were placed upon the sick list within a few weeks after entering the barracks in the vicinity of this city, and that upon their departure to the seat of war, nearly *thirty per cent.* of the original force was left behind as invalids. This corresponds with the statement made by the colonel of one of the best regiments that was ever quartered at this rendezvous, who, after seven weeks' residence here, deliberately replied that during that brief period the military strength and value of his regiment had been *permanently* diminished *thirty per cent.* upon the force it actually possessed the day it entered the stifling quarters provided for his men in this city.

A visit to the old barracks at East New York, at Camp

Washington, or Camp Curtin, will convince any intelligent physician that a residence of full corps of recruits for a few weeks in those quarters must be a more terrible ordeal to life than any exposures our armies have yet suffered upon battle-fields. And we believe we do not exaggerate when we assert the opinion that nearly one-third of all the effective force of the army, as hitherto enlisted, is needlessly wasted and lost before the freshly recruited regiments have reached the seat of war.

This is an evil that may and should be arrested immediately. The responsibility rests upon the Governor and Military Staff of each State, as well as upon the mustering officers and quartermasters of the U.S. Army concerned in the care of the new levies at the military depots. Let the united influence of medical men in all the States be directed to the reform that is so much needed in the early management and care of the grand army that is now being levied, for without such volunteered effort on our part the reform will not be effected. Let us appeal to the Surgeons-General in the States, to the Quartermasters, to Governors, and all the responsible authorities. Our brothers, neighbors, and friends, and not a small percentage of our own profession, are to constitute this last grand army; and against the wholesale slaughter and the slow poisoning of such a host of patriotic men, as they will be rapidly gathered at each military rendezvous, let us solemnly protest, while we do all in our power to enlighten and aid the proper authorities in the work of *life-saving* by improvements in encamping-grounds, the ventilation and enlargement of barracks, the ventilation of tents, the care of camp cuisine, etc. And in this work we must look to the Medical Bureau and to the Sanitary Commission of the army for their effective aid. We know that the Sanitary Commission has been continually appealing to the War Department to remedy the very evils we have here mentioned. Its appeals, with its intelligent statements and plans, must now be enforced by the united influence of the entire profession; for life-saving and patriotic service for our country are the paramount duties of every physician.

#### THE WEEK.

THE sanguinary battle of Gettysburg illustrates again most painfully the importance of a large reserve force of surgeons and assistants on a battle-field which our forces immediately relinquish to pursue the enemy. The army is amply provided with surgeons, if they were allowed to remain and care for their wounded. But in this and many other instances the army has at once moved, and the surgeons are obliged to follow their commands. Under these circumstances the immense number of wounded are necessarily left without succor or surgical aid. Hundreds were unattended at Gettysburg for days. It seems important to devise some system by which this deplorable neglect of the wounded may be obviated. We have before suggested the selection, by the SURGEON-GENERAL, of a sufficient number of competent surgeons in civil life, each provided with a proper number of assistants, who shall visit the field while the battle is in progress, and remain until the wounded are thoroughly provided for. If such a corps of surgeons were selected and properly commissioned, a great evil would at once be remedied.

THE circular of the SURGEON-GENERAL, published in this



Journal for July 4th, asking information in regard to the use and abuse of calomel and tartar emetic, was intended exclusively for circulation among army surgeons. We learn that the returns thus far made show a striking preponderance of opinion against the general use of these remedies in the army. The value to be attached to these opinions is very great, and conclusive on the subject. We shall look with interest to their future collection.

## Correspondence.

### SARRACENIA PURPUREA IN SMALL-POX.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Something like a year ago I saw an article in the *Tribune* in regard to the use of the *Sarracenia purpurea* in variola. I made a minute of it in my note-book, with a view of giving it a trial at the first opportunity. That opportunity has occurred, and I have tried it, with what success the following case will show.

Monday, May 18th, 1863, was called to see W. C., a young man twenty-three years of age, strong and vigorous constitution. Found him with all the premonitory symptoms of variola; the lumbar pains being particularly prominent. He had been exposed to that disease eight or ten days before. Does not remember ever having been vaccinated.

Tuesday, 19th.—Fever higher, and pain more severe; eruption beginning to appear. I gave him the usual treatment, but without going over all the details of the case, suffice to say that on Saturday 23d there was a copious eruption of pustules about the size of small split peas diffused over the whole body, particularly on the hands and face. The latter was so swollen as almost to close the eyes; the eruption being so thick even at this stage as to look like one great pustule. More or less delirium during the night, and the severe lumbar pains undiminished. It now occurred to me to give the *sarracenia* a trial; as it was growing in abundance in a marsh near the house I sent out and procured some of the roots, and directed the nurse to give a teacup two-thirds full of the decoction every four hours.

Sunday night, 24th.—Saw him again. Had been delirious the night before, but now calm; pulse slow, skin cool, and many of the pustules shrivelling. From this time the disease never advanced, but all the pustules dried up without maturing. There was no pitting. "One swallow does not make a summer," and I would not pretend to claim from this one case that the *sarracenia* is a specific in this loathsome disease. Let other physicians give it a trial, and report the result. Should further trial prove it successful in cutting short the disease it would confer a blessing on the human family equal to the discovery of Dr. Jenner.

Yours, etc.,

SAMUEL MITCHELL, M.D.

CAMERON MILLS, June 23, 1863.

### HOSPITALS FOR OPERATIONS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I see that in the *TIMES* for May 16th a "Surg. Vols." takes great exceptions to my remark: "In our General Hospitals, as at present arranged, the Medical Staff is too small to be in condition, as to time (to say nothing of skill, etc.) to perform all the operations that should be performed." In a communication in the *TIMES* of April 18th, in respect of the necessity for "Hospitals for Operations," he says:—"The sweeping charge of incompetency, as applied to the Army Medical Corps, is not only unprofessional and ungenerous, but it is unjust; yes, more, it is false." This "sweeping charge," he thinks, if I do not wholly disregard truth, and will refer to the Army Regis-

ter," I "will withdraw." As I made and intended to make no such "charge," I have nothing to "withdraw." I wrote from the Department of the Tennessee (near, or below, Memphis), but the printer located me at St. Louis, Mo. I referred to comparatively local matters—"Surg. Vols." considers that I make a sweeping charge of incompetency against the whole "Army Medical Corps."

In November last, Surgeon H. R. Wirtz, U.S.A., Medical Director of this Department, thought it necessary to appoint a Board of Medical Officers to examine physicians serving either in hospitals, or with troops in the field, to test their competency. "Physicians under contract will be duly notified when to appear before the Board." Every "Physician under contract" in the Department, composing in large part the Medical Staff of our General Hospitals, was to be examined, and such commissioned Medical Officers as were reported by their Division Surgeons. The Board did not act, as the Assistant Surgeon-General did not approve of the idea. I still maintain the opinion that our Army Medical Corps will be more efficient when "Hospitals for Operations" are a part of the system.

I have always felt and professed a high respect for the Medical Corps, U.S.A. and U.S.V. Incompetent men are to be found in both classes.

P \* \* \* \*

Department of the Tennessee.

### ANATOMICAL DEVELOPMENTS OF PARTS LIABLE TO OBSCURE THE DIAGNOSIS OF OBLIQUE INGUINAL HERNIA (By order of the SURGEON-GENERAL).

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—It might be of interest to the profession, and especially to military surgeons, and of practical use, to call attention to an anatomical development of parts liable to obscure the diagnosis of oblique inguinal hernia. The following case is a good illustration of it.

PENSION OFFICE, November 13, 1862.

SIR:—J. D. has been ordered to report to you for examination as to his degree of disability, and present physical condition. You are also requested to learn from him the history of his disease.

Respectfully yours,

(Signed)

JOS. H. BARRETT,

Commissioner.

DR. R. S. SATTERLEE,

Grand St., New York.

ARMY MEDICAL PURVEYOR'S OFFICE,  
466 BROOME ST., NEW YORK,  
NOVEMBER 21, 1862.

HON. JOSEPH H. BARRETT,

Commissioner of Pensions.

SIR:—J. D. presented himself to-day and was examined. His history of his alleged injury is as follows:—In November, 1861, when on drill, he felt pain for the first time in his groin, and on examining he found a tumor there. The tumor or "rupture," as he supposes it to be, he says is on the right side only.

The present examination reveals an apparent tumor, of equal extent, on each side. These tumors or enlargements have a conoidal shape, and extend from the neighborhood of the anterior superior spinous process of each ilium to the spines of the pubes, the apex downwards. From a superficial examination the conclusion might be that he has a double inguinal hernia. But when he coughs the protuberances seem largely inflated, the bands of fibres of the abdominal muscles are distinctly marked, and though the apparent tumors descend to the external abdominal rings, the fingers when placed in the rings are not sensible of a hernia, and when the coughing ceases the protuberances return to their former condition, or disappear.

The conclusions are that the man has not hernia, that

the appearance of it is due to unusual anatomical developments, and that the malformation is congenital.

His physical condition otherwise is good.

Very respectfully,  
Your obt. servant,  
R. S. SATTERLEE,  
Surgeon U.S.A.

This is one of several cases that have presented themselves at the Medical Purveyor's Office, for examination for certificates of disability for pension.

The anatomical deviation is an unusual thinness of the aponeurosis of the external oblique and the fascia superficialis and superincumbent integuments, or undue development of the fibres of the internal oblique that arise from the anterior part of the crest and anterior superior spinous processes of the ilium, and from Poupart's ligaments. It occurs on one side or on both.

Yours, etc.,  
L. F. HAMMOND,  
Surgeon U.S.A.

### TRANSPORTATION OF COMPOUND FRACTURES OF LEG AND THIGH.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The question often arises as to the best method for the transportation of cases of compound and comminuted fractures of leg and thigh.

The plan I have recommended and adopted with entire success is to place compresses made of straw, hay, leaves, husks, or even sand-bags, between the legs and thighs. After drawing the broken limb down to its normal length, apply the compresses, and fasten it to the well one, by means of a bandage cast lightly about them both—thereby making a splint of the sound limb. In this manner these patients can be removed for miles in ambulances, and changed or handled with less injury, discomfort, or inconvenience than with any other dressing with which I am familiar. The only care requisite is to see that the subsequent swelling from inflammation or infiltration does not destroy the vitality of the parts; cold water and the re-application of the dressings will obviate this danger.

Yours, &c.,  
JOHN SWINBURN, M.D.

ALBANY, N. Y., June 30, 1863.

## Medical News.

### COMMENCEMENT OF THE LONG ISLAND COLLEGE HOSPITAL.

—This young and vigorous medical school closed its fourth session on Thursday, the 2d of July. The number of matriculants during this term was fifty, representing fourteen different States, and the number of graduates was sixteen. The President, THEODORE L. MASON, M.D., briefly addressed the audience, reviewing the past history of the College, and alluding to its future prospects. Although the class was diminished in 1862, as was the case in all medical colleges, yet during the present term it had increased to near its maximum size. He concluded by explaining the nature of the diploma about to be conferred, and the moral and legal obligations which it conferred. The Hippocratic oath was administered by Dr. MITCHELL, when the President conferred the degree of M.D. upon the following gentlemen:—Alfred W. Merrill, New York; Albert Crane, Louisiana; John G. Kalback, Pennsylvania; Henry W. Good, Pennsylvania; James McMillan, New York; A. Jackson Sanders, Pennsylvania; Robert Newman, New York; Gorham E. Sargent, Massachusetts; Adam B. Dunder, Pennsylvania; E. R. Moody, Kentucky; George

F. Burton, Delaware; Alexander J. C. Skene, Scotland; W. J. K. Kline, Pennsylvania; Benjamin R. Taylor, New Jersey; John A. Webster, Iowa; Philip McNab, Indiana. The honorary degree of M.D. was conferred upon Darwin G. Eaton of the Packer Institute.

Professor Austin Flint, M.D., made the address to the graduating class. He welcomed them on behalf of the Council and Faculty, to the practice of medicine and surgery. He reminded them that there was a broad field before them in the army and in private practice. He spoke hopefully of the prospects of the College, and remarked that although the four years of its existence have been filled with troubles incident to the political condition of the country, the state of its health is beyond question—it is no longer a weakly bantling, but a healthy and vigorous body. He proceeded at considerable length to point out to the class the useful discoveries of Hunter and Jenner, and bade them emulate these men in adding to science something to benefit the human family, and immortalize themselves.

The valedictory address on the part of the graduating class was by ALFRED W. MERRILL, of New York. The speaker took the most elevated view of the dignity of his profession, and in truthful and eloquent terms urged his associates to aspire to an honorable distinction.

Hon. Samuel Sloan (President of the Board of Trustees) in a feeling manner declared his intention to retire from the presidency of the College. This he regretted very much, but his removal to New York rendered it necessary. He reminded his Brooklyn friends that they did not properly appreciate the benefits conferred by the Long Island College Hospital. It had sent surgeons to the army, and its graduates honored them in every walk of life; yet it owed a debt of \$25,000. To liquidate this debt he would willingly subscribe a thousand, or, if necessary, two thousand dollars. He trusted others would come forward and relieve the institution of its debt.

At the conclusion of the services the students and faculty were elegantly entertained at the residence of Dr. HENRY.

OPERATIONS FOR HARD CATARACT—RESULTS OF EXTRACTION AND OF DEPRESSION OR RECLINATION.—There are four compilations of statistics relative to the results of operations upon hard cataract. Their conclusions do not exactly correspond, although they do not vary very widely. By adding them together their errors may balance, and the result be a close approximation to the truth.

### OPERATIONS FOR CATARACT.

	By Ex- traction.	Failures	Ratio.	By Re- clination	Failures	Ratio.
Frederick Jaeger.	728	83	1 in 22	129	21	1 in 6
Edward Jaeger.	114	7	1 in 16	81	12	1 in 7
Arit.	540	41	1 in 13	82	14	1 in 6
Rivaud-Landran.	2073	201	1 in 10	177	50	1 in 3½
Total.	3455	282	1 in 12	469	97	1 in 5

Stated in another form, the number of failures after extraction of hard cataract is eight per cent., while of reclination or couching the number of failures is twenty-one per cent. By failures are meant cases where sight was totally lost. After extraction the pupil may be closed, and, for the time, sight not be restored: an iridectomy may afterwards impart vision. Such cases are not counted failures. In reclination the immediate result may be successful, while after a few months chronic choroiditis or retinitis may be set up by the presence of the lens in the vitreous humor, and eventuate in softening and atrophy of the globe. The failures in reclination may be more or less remote, those of extraction follow immediately. The successes of reclination are liable to a disastrous issue years after the operation: the successes of extraction are permanent.—H. D. N.

## Original Lectures.

DISEASES OF THE RESPIRATORY ORGANS  
IN CHILDREN.BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1862 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILIT DISPENSARY, N. Y.

## LECTURE IV.—PART II.

## PERTUSSIS—ITS COMPLICATIONS.

MANY of the complications of pertussis have their seat in the lungs, so that it is a necessity to us, in treating a case of this disease, to be well acquainted with the condition of our patient's chest. If we auscultate during the first, or catarrhal stage, we shall discover the mucous or sibilant rhonchi which are the exponents of a slight bronchitis; on percussion, also, we shall find the thorax clear and sonorous. There is no slight difficulty in applying the ear to the chest during the paroxysmal cough of the second stage of whooping-cough, but if we succeed in our efforts, we shall recognise the vibrations given to the trunk, and, in the intermissions between the expulsive shocks of the cough, a partial sonorous râle, or a roughened respiratory murmur. The hoop is produced in the larynx, and at the moment it occurs the air does not pass beyond the larger division of the bronchi, so that during its continuance the vesicular murmur will be absent. It is therefore of prime importance to auscultate the chest of the little patient at a period of time sufficiently removed from the termination of the paroxysm, when we shall hear the usual puerile respiration of children, mixed with some dry or moist sounds of the larger air tubes. Let me remind you, also, that you should neither count the pulse nor practise auscultation *just before* a paroxysm, for then you will remember that there is a considerable disturbance both of the respiration and circulation.

Dr. Roe explains the cough and the hoop in the following manner:—"Any one who will make the experiment will perceive that, by the exercise of the voluntary muscles of respiration, he cannot either continue coughing loudly for so long a time, or empty the lungs so completely of air, as a person does in the paroxysms of whooping-cough; it must therefore be inferred that the involuntary muscles . . . . . connecting the extremities of the cartilaginous rings of the trachea and bronchi, powerfully assist in accomplishing both these objects. They seem, by acting spasmodically, to expel the air from the lungs, and to excite by sympathy the voluntary muscles of inspiration; the combined action of both sets of muscles appears to produce this peculiar cough. The hoop takes place in the larynx and trachea, and appears to be caused by a rush of air through a contracted passage, for no sudden or violent inspiration could produce this sound in the natural, healthy state of the air tubes. The lungs are so completely emptied of air by long-continued expirations, that a most distressing sense of suffocation is produced, to relieve which a full inspiration is instinctively made, and at the same moment the rima glottidis is contracted, and the air passing quickly through a very narrow opening causes the hoop."

If we make three stages of the disease, we may consider this paroxysmal condition as existing from fifteen or twenty days to one month, and then comes the period of decline. Before this commences, the cough has been much more severe at night than during the daytime; but now we begin to observe a diminution of the nocturnal exacerbations, which is one of the earliest signs of the subsidence of the disorder. The fits of coughing grow less in frequency and intensity; they now occur but four or five times during the day, and rarely at night: they

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possess a catarrhal tone, lose by little and little their convulsive disposition, and are no longer accompanied by hoop. The inspirations become easy and tranquil; the vomitings cease, and are replaced by the expectoration of a thick, greenish mucus.

Sometimes the kinks and hoops are reproduced by trifling causes, such as fright, severe pain, anger, etc., and this proclivity may be seen for several months after the child appears to have entirely recovered. The duration of the third stage presents great differences: in a simple case of pertussis it is usually short, ten or fifteen days; but where the disease is complicated, it may be some weeks or months.

During an attack of whooping-cough, if it be not associated with other diseases, the child's general health continues good, the appetite and the function of digestion are unimpaired, but it may yet be thin and pale from the constant rejection of the food by the stomach. An ephemeral fever is sometimes observed, but in the majority of cases there is complete apyrexia. The circulation may be deranged by the excitement of the cough, and the same cause may give rise to a more or less profuse sweating. Some children retain their cheerfulness throughout; in others the spirits are unequal, sometimes depressed. The disease goes through its three stages in from one to four months, the common notion being that it is six weeks coming to its height, and six weeks in going off; but any such precise computation as this is, of course, without foundation.

The progress of whooping-cough is occasionally different from the description that I have given you. The varieties are generally either in its intensity or in the return of the attacks, which sometimes assume an intermitting type; the violence of the cough, also, among very young children, may bring on fatal convulsions.

The first, or catarrhal stage, does not always disappear so quickly as I have mentioned to you; for at the commencement of an epidemic of pertussis, or towards the close of one, it is not unfrequently greatly protracted; for epidemic whooping-cough, as we have seen, is sometimes developed from epidemic catarrh, and the long continuance of this latter disease is often the first warning we have of the invasion of the former. This catarrh, also, may be accompanied by fever, dyspnoea, and many of the symptoms of severe bronchitis. In such cases the discrepancy between the constitutional disturbance and the auscultatory signs will often puzzle us, until in the progress of the disorder the peculiar phenomena of whooping-cough make their appearance. There are other eccentricities which you will notice in the course of your medical experience. One of the stages may be wanting, the first for instance, or the last, that of decline; and far more rarely you will see children who do not have the convulsive period, but suffer from violent fits of coughing without any hoop. Usually, however, you will meet with three forms of the disease:—One which is rapid in its progress, recognised by marked febrile phenomena and frequent hæmorrhages; one which presents rather symptoms of intestinal and gastric derangement, such as disorder of the bowels and repeated vomitings; and lastly, one in which the convulsive stage is developed in the highest degree.

The diagnosis of pertussis is easy in the generality of cases. It is distinguished from other disorders by the convulsive expiratory cough, and by the crowing inspiration or hoop. During the catarrhal stage we have no means of making an accurate diagnosis of the nature of the disease, though the prevalence of an epidemic, the liability of our patient to contagion, and the fact of his not having previously had pertussis, are circumstances which demand our attention. When the convulsive stage is fully established, we can in almost all cases be sure of what we have to deal with, yet we may even then confound it with a form of bronchitis accompanied by spasmodic cough, or with tuberculosis of the bronchial glands. Acute bronchitis of this kind, however, commences suddenly with the peculiar



cough, and has no preceding catarrh; the kinks are shorter, and more intense; there is no hoop, no expectoration, and no vomiting; the disease begins with fever and accelerated respiration, which increase with its progress; there are mucous, sibilant, or sub-crepitant râles at all times; the symptoms are continuous, and it may occur several times in the same individual. From tuberculosis of the bronchial glands we may distinguish it by the following symptoms of the last named complaint:—It is neither contagious nor epidemic; it has no distinct stages; the fits of convulsive cough are very short, not terminating with a hoop, expectoration, or vomiting; there are physical signs of tubercular trouble; the voice is often altered; there are hectic symptoms, and its course is chronic in its character.

The prognosis of simple hooping-cough in a child of fair constitution is favorable. The epidemics of the present day have none of the severity of those described by the older authors, and most of the danger to be apprehended is from the supervention of some complication. In rare instances in young and feeble children, the violence of the kinks may prove fatal. In autumn and winter the disease is more severe and more prolonged than it is at other seasons.

In the first stage, of course, it is impossible to form any prognosis; during the second only can it be done, and then it is imperatively our duty to remember that it is at this epoch that intercurrent diseases appear. Sometimes they commence suddenly, and without any known cause, when we have no reason whatever to suspect their existence, and in these cases the issue of the disorder is doubtful, and our opinion must be guarded accordingly.

Almost any disorder may occur during the progression of pertussis, from bronchitis to idiocy. There are, however, some which are more frequent complications than others, and as these are often met with in practice, it may perhaps be worth while to consider briefly the time at which they are remarked, their form, their advance, and their prognosis.

As might naturally be expected from the nature of the disorder, convulsive seizures frequently occur during its course, such as spasm of the glottis, and the phenomena that are known under the general designation of "convulsions." The accession of these nervous troubles may be so sudden and unannounced that you are startled by it. A child, to all appearance suffering only from severe hooping-cough, is all at once taken with a fit of convulsions, and dies of spasmodic closure of the larynx, and consequent congestion of the brain. Or else, after a particularly violent paroxysm of coughing, you observe that curious symptom which we have already noticed in spasm of the glottis, namely, a contraction of the thumbs and great toes. At first these signs are slight, but they convey to your mind the apprehension of graver trouble which is to follow. A degree of dyspnoea comes on after a while, the carpo-pedal contractions become permanent, the breathing grows hurried and irregular, the hoop disappears, the cough has a smothered sound, the surface has the lividity due to imperfect respiration, the child sinks into stupor with dilatation of the pupils and twitching of the superficial muscles, and finally expires in convulsions.

Vomiting that exists for twenty-four hours independently of the cough, of the remedies that you are employing, and not connected with obvious gastric disorder, is a symptom that should always direct your attention to the head. You will find that the child daily grows more heavy and drowsy; complains of headache, has an increase of dyspnoea before and after the fits of coughing, and has perhaps some hæmoptysis or hæmatemesis. After this condition has continued for a time, convulsions ensue, which either kill the little patient at once, or else leave him in a comatose state from which he never revives.

These convulsive seizures are more frequent in young children than in older ones; they are connected in many cases with the irritation of dentition, but are not by any means confined to that period. It is during the second stage that

they are observed, and particularly when the cough is very intense, and the child has been laboring under it for some time. Sometimes they arise during the intervals of coughing, at others during the cough itself.

Hooping-cough and measles are the two diseases of infancy and childhood which show the strongest disposition to pulmonary complications. The bronchitis and pneumonia of pertussis are unfortunately both frequent and fatal. They are met with at all ages, and in all the three stages of the disorder, though, in general, we find them in the second. When they occur during the first stage, it may be extremely difficult to make a correct diagnosis; but the catarrh which has been manifested at the commencement continues on into the second period, and is marked by a greater amount of constitutional disturbance, quick pulse, high fever, loss of appetite, and incessant cough and dyspnoea. When these symptoms come under our notice, auscultation and percussion will reveal to us the true nature of things, and enable us to decide that we need be under no anxiety, for the inflammatory complaint usually subsides in the course of a few days.

Those cases are much more serious in which, after the peculiar symptoms of the convulsive stage of pertussis have declared themselves, bronchitis or pneumonia appears. In some cases, after the ordinary catarrhal fever has subsided, a hoop has been heard accompanying the cough at intervals; when suddenly the child becomes feverish and restless, the skin grows hot, the pulse and respiration are permanently quickened, and the latter is somewhat difficult; the hoop at the same time grows louder, and the cough is aggravated and distressing, and not attended with much expectoration, whatever mucus is thrown off being streaked with blood. On applying our ear to the thorax we hear a coarse, moist râle over both lungs; on a deep inspiration smaller sounds may be made out, and percussion is resonant. As the disorder progresses the cough will become less frequent, losing both its hoop and its spasmodic character; the respiration increases in wheezing and dyspnoea; the fever continues; the pulse becomes very rapid, small, and feeble; the cheeks and lips purple, the surface cold and moist, and death speedily ensues. Dr. West remarks, that cases of this kind more rapidly terminate fatally "than any form of affection of the lungs which comes on in the course of hooping-cough." He has seen "a child die on the sixth day from the first appearance of any indication that the disease was other than a very mild attack of hooping-cough;" and says, "it will not surprise you that the fatal event should take place so speedily, if you bear in mind that after death we discover intense injection, even of the smaller bronchi, with copious effusion of pus into their cavities, or very extensive vesicular bronchitis, or both conditions together."

Instead of having bronchitis or pneumonia at this early period, they occasionally come on later, and seem to be developed out of the pertussis. In such cases the symptoms gradually increase in severity, and, though the hoop is unchanged, the cough grows more frequent, and the child's sufferings greater. His face becomes anxious, his eyes watery and injected, his respiration habitually hurried, irregular, and wheezing. At the same time there is a more or less coarse râle over both lungs. The disease is usually chronic in its advance, and may terminate either by the interference of cerebral disorder, or else may go on to recovery. Sometimes the inflammation extends by continuity of tissue into the smaller air tubes, and thence to the substance of the lungs, giving rise to pneumonia; sometimes the child dies exhausted from a fit of coughing; and sometimes after the fever has increased, and the emaciation become extreme, the little child passes away in a tranquil slumber, ceasing to live because its tender vitality is exhausted.

We do not very often witness this complication of the disorder in its third stage; it then simulates very closely pulmonary tuberculosis, and we are forced to make our diagnosis by a careful consideration of all the symptoms.



The duration of secondary bronchitis or pneumonia is variable, but depends much upon the age of the patient; in very young infants it is exceedingly short, as they quickly succumb to the attack of such powerful adversaries, and the fatal termination is hastened by the access of convulsions. From three to five years we may take a more cheerful view of this complication, although it is still a very serious one, particularly when the whooping-cough has been preceded by measles. "However," remark Barthez and Rilliet, "however grave they may be in appearance, whatever resemblance they bear to tuberculosis, it is never necessary in these cases to lose all hope. We have seen real miracles produced by change of air, in cases where everything seemed to indicate that the disease was beyond the resources of art."

There are, however, other complications of pertussis which we meet with in practice, though we are not called upon to treat them so often as those which I have just mentioned. Thus, there is a species of catarrhal diarrhoea, arising from the remarkable susceptibility of the mucous membranes in early life, which will often give you trouble, because it reduces the strength of your patient, and interferes considerably with some of the medication which you would otherwise adopt. An irritable state of the stomach you will find a source of no small annoyance, particularly when the child is incapable of retaining even the blandest fluid. It may accompany diarrhoea; or else the repeated vomiting has associated with it a constipated condition of the bowels, a red tongue, and numerous small aphthous ulcers about the lips and cheeks. When acute inflammations of any part of the alimentary canal supervene, they may be considered as not attributable to the whooping-cough: they exist at an advanced period of the disorder—in fact a few days before death—coincide with other complications, and their nature and symptoms are precisely the same as when they arise idiopathically.

In almost all instances in which the paroxysms of coughing are violent, long continued, and give rise to more or less nervous congestion, we shall find serous infusion into the cellular tissue of the eyelids, about the face, and in the hands; sometimes this disposition expands into true anasarca, and has produced death not only by the general progress of the dropsy, but also by hydrothorax. Four cases of this result of pertussis have been reported, in one of which there was hypertrophy of the liver. It is more common to find tubercles in the lungs and bronchial glands, and, indeed, we may take it as a general rule, that whooping-cough has a special proclivity towards tuberculosis; and tubercles may also be deposited in the cerebral meninges, giving rise to acute hydrocephalus.

## Original Communications.

### SCURVY IN THE NAVY.

By R. S. FARQUHARSON, M.D.,

PASSSED ASSIST. SURGEON, U.S.N.

I WOULD respectfully call the attention of the Bureau of Medicine and Surgery to the following remarks in regard to the want of some antiscorbutic article in the ration of our navy. This need is inferred from the existence of a "scorbutic taint," which, besides manifesting itself in a few rare cases in the form of decided scurvy, would seem to be the most probable cause of the general debility and anomalous affections of men, otherwise in the best possible circumstances for the enjoyment of good health.

Dr. Budd has given it as his opinion, that something short of scurvy, "that a condition, that might be correctly designated a scorbutic taint, must often occur in the lower classes in towns, but especially in prisons and asylums, towards and at the close of long winters, where succulent vegetables are scarce and expensive."

That such a condition existed on board this vessel during the months of February and March, while cruising on the south coast of Africa, was inferred from the following circumstances:—

I.—An extraordinary susceptibility to the constitutional influence of mercury, when used in its common forms and given in the ordinary doses. One patient was severely salivated by five grains of calomel, given at the onset of an acute abdominal affection, though it purged; another with secondary syphilis had his gums smartly touched by less than a grain of corrosive sublimate, a preparation which enjoys the reputation of being much less liable to salivate than the others; two more persons were pyralized each by a dose of six grains of blue mass, given to one in the beginning of an attack of dysentery, and to the other in the course of an obstinate constipation. From that period mercury was rarely given, being deterred from its use in cases where it seemed of prime necessity, not only by this sad experience, but by the condition of the gums (spongy, tender, and inclined to bleed upon the slightest touch), and a confident belief in the existence of a general cachexia, like scurvy, in being the result of a deficiency of some elements of the vital fluids essentially necessary to their normal composition. We are aware that this unusual susceptibility of sailors to mercury has been, by good authority, ascribed to a redundancy of the chlorides in the circulating fluids, rather than to the want of any component part. But this view seems erroneous from the following considerations:—First, this excess is an assumed fact, not having been shown by any analysis; secondly, this liability to salivation shows itself only now and then, whereas it should be constant among men fed on salt provisions for a certain length of time; thirdly, the known fact that no people are more healthy than those engaged in the mining or manufacture of common salt, or in any manipulations with it; fourthly, that the chloride of sodium, when used in quantities much exceeding the demand for it as a condiment, is a most powerful restorer of the red particles of blood in cases where these are deficient (being surpassed in this respect only by the martial preparations), and in healthy persons, when so used, produces a dangerous degree of plethora or redundancy of the red globules; lastly, that the susceptibility to salivation from ordinary doses of mercury showed itself on board the Steamer Princeton, while in the Mediterranean, during the months of July and August, 1848, and being followed by an undoubted case of scurvy, was made the subject of a communication to the Bureau during the winter of 1850-51.

II.—The large size of the daily sick-list for the quarter ending April 1st, 1853, being 6.62 as an average, and 11.5 for the next quarter. This fact, when divested of one weak point (viz. the presence on board of some men of broken-down constitutions, and others even with organic and incurable diseases, the effect of some radical error in the present mode of shipping men), becomes a strong and striking one, when it is considered that nothing like an epidemic disease has prevailed on board; that the brig was then cruising on the south coast, remarkable for its fine climate, its almost uninterrupted good weather throughout the year; that no perceptible local cause of disease exists on board ship; and lastly, that upon four of H.B.M. brigs they have almost perfect good health, though they are confined for many months together to a very small extent of coast, and their men are much more exposed to the causes of disease than ours, from the greater frequency of their boat expeditions.

III. The general state of the gums among the men, soft, tender, bleeding upon any touch whatever (even such as eat the ordinary food), and retracted from the teeth, which, in many cases, would be slightly loose in their sockets. Here it may be remarked, in regard to my own person, that, having half a molar tooth extracted, the hæmorrhage was greater than I had ever seen before, and the stopping proved very troublesome and tedious.

IV. The occurrence of two cases having many symptoms analogous to those of scurvy. As some of these cases may be deemed necessary to the proper appreciation of the inference of a "scurbutic taint," the following notes, taken from the journal, are added:

At sea, March 12, 1853, admitted Willard Snow, Quartermaster, aged 50, with following symptoms: pain in the back and in the head, slight tenderness of the hams and knees, pain also in the soles of the feet, constipation, furred tongue, no appetite; took yesterday afternoon 12 grs. of the compound extract of colocynth, which has not yet acted. R. Antimon. et potas. tart., gr. i.; mag. sulph.  $\frac{3}{4}$  i.; aq. Oj.; S.  $\frac{1}{4}$  at a dose, to be repeated q. h. 2 until a purgative effect is freely produced. 13th.—Bowels freely moved; tongue clean; appetite returned; pain remains in the knees; ordered friction with a stimulating liniment. 14th.—General health good; pain now in the calves of both legs; heels very tender; no croaking nor any redness perceptible; continue friction. 15th.—Pain about the hams increased, extends also to the calves and to the extensor tendons in the joint of the ankle, these being raised up, and patient complains of a feeling of constant tension in them; heels and soles of the feet very tender and painful; pain of a burning kind, like that of chilblains, referred by the patient to the soft parts and to the surface; says also the pains are like those of scurvy, from which disease he was a sufferer on board the Raritan in 1846; continue friction; f.  $\frac{3}{4}$  j. lime-juice four times a day. 16th.—Last night both feet swelled and oedematous; pain increased at night; continue treatment. 17th.—General health the same; skin natural; pulse rather feeble; tongue clean; appetite and digestion good; bowels regular; pains very severe last night, at which time both legs and feet were oedematous; pain in the hams referred to the tendons of the hamstring muscles, increased by forced extension of the limbs, they being kept in a partially flexed position as the easiest one; both heels acutely tender to the touch; a slight swelling extending down the inner side into the hollow of the foot; no heat or redness about these painful spots; two or three spots of a dusky red color on the back of the foot; one also at the back of the first joint of each great toe. Continue lime-juice and R. spts. ether. nitric. gtt. xxv. q. h. 6. 18th.—Rest better last night; no swelling of the calves now; tenderness of one heel gone, patient being able to put it to the deck and bear his weight upon it; right heel remains tender; dusky redness of the spots on the feet has almost entirely disappeared; no effect on the kidneys being perceptible from the spts. ether. nitric, stop it, and continue the lime-juice. 19th.—Worse; increased pain in the hams, legs, and feet; left heel swelled, and as hard as a stone; no heat, no redness, no throbbing; continue lime-juice. 20th.—Better; can bear his weight upon left foot without much pain; left heel much softer; pain remains in the tendons of the ham; general health good; according to patient his feet and legs perspired last night for the first time since his illness; continue lime-juice. 21st.—Better; no swelling about feet or legs; some tenderness lingers about one heel; continue treatment. 22d.—Discharged to duty, some tenderness of one heel remaining, which continued for several days longer, but gradually disappeared, the patient continuing the lime-juice. Though not mentioned in the above notes, it may be here added that several times the gums of this patient were examined and found to be in nowise altered from a normal condition, neither presenting the deep redness of scurvy nor being spongy or retracted from the teeth.

Case II.—St. Philip de Benguela, March 14, 1853. Admitted Charles Anderson, an ordinary seaman. Patient has a pale, anæmic appearance, a dull, stupid countenance, and a very heavy, sluggish manner; was on the sick-list, soon after leaving the United States, with a chancre, of which he was cured and discharged in thirty-two days; has always presented the same appearance since the time of his discharge. Was called to the patient yesterday afternoon, and found

him in the following condition, viz.:—Skin cool and moist; pulse very small and thready; hands and feet cold, and of a shrunken, bluish appearance; features sharp and contracted; dark spots under the eyes; lips and finger nails livid; respiration sighing; tongue clean, small, and pointed; slight diarrhoea of three days' standing; no shake or tremor, though otherwise the appearance of one in the cold stage of an ague, or the collapse of cholera, is presented; pain of a boring or splitting kind at the top of the head, with severe aching in the calves of his legs. Gave him two grains of quinine and ten grains of Dover's powder and upon wrapping him up in blankets the heat of the surface returned, and the patient fell into a profound sleep which lasted through the afternoon and night. 14th.—Awoke feeling quite stiff; severe pain in the calves, with the muscles of a boardlike hardness; great tension of all the tendons inserted into the feet; the exterior tendons of the toes standing up like wires as they pass under the annular ligament and along the back of the foot; great pain and tenderness in the soles of the feet, so much, indeed, that it is with great difficulty that the patient stands up. R. Sulph. of quinine, 3 ss; sherry wine, Oj.; S. a wine-glassful three or four times a day; ten grains of Dover's powder at night; rub legs and feet with a liniment of ammonia and turpentine. 15th.—Very weak; has a very stupid look this morning; perspires freely; pain and hardness continue about the hams and calves; tension of the tendons about the ankle as before; tenderness of the soles of the same; gums sound and healthy; tongue clean; appetite good, though inclined to be capricious; bowels regular. Continue quinine wine, liniment, and give two pts. of lime-juice four times a day. 16th.—Same state; cannot stand, owing to the excessive tenderness of the muscles of his feet; pain across the fronts of both ankles, where there is a swelling, apparently produced by an effusion under the periosteum, as the tendons can be distinctly felt as they pass over the tumor and under the annular ligament; no swelling or redness about any of the joints; slight stiffness of the back; tongue clean and pointed; appetite good; no headache; bowels regular. Stop quinine, wine, and continue lime-juice; Dover's powders at night, and the liniment. 5 o'clock P.M.—Called to patient on account of a dusky redness over the upper part of the feet; no heat of surface anywhere; some pains in the arms, darting down to the fingers. 19th.—Just after turning out this morning the patient vomited, throwing up a small quantity of clear, glairy matter; no appetite; has the same pale, sallow countenance, with dark spots under the eyes; these have a heavy, dull appearance, and fill with tears, without any cause, when he is talking; tongue clean and moist; has lost its pointed appearance, being now flattened, and slightly indented at the edges by the teeth; gums pale and firm; mucous membrane of the fauces and of the palatine arches of a deep red color; no headache; complains very much of want of sleep; sweats profusely all the time; pulse so small as to be hardly perceptible; feels like a fine, tense thread, seems to have some hardness, an illusion produced no doubt by the extreme smallness of the artery; skin cool; pains in the shoulders and arms, with a feeling of numbness extending down into the hands; pain in hams, calves, ankles, and soles of the feet; the upper parts of the feet and of the fronts of the ankles have a dusky red color, as if exposed to cold and damp weather; an old scar upon the feet is quite livid; the extensor tendons remain in the same state of extreme tension; one calf, the seat of great pain, is swelled and hard, as if a fibrinous effusion had taken place among the muscles; pain much increased at night. Cont. lime-juice; instead of the Dover's powder, give half a grain of morphine at night, and R. Quin. sulph.  $\frac{3}{4}$  j.; pul. op. gr. iij.; M. ft. pil. No. x. S. one pill q. h. 6. 18th.—General condition the same; slight redness over the tumors in front of the ankles; has a disposition to vomit, with little or no nausea; no appetite; pulse small, rapid, and with the feeling of hardness above described. Patient inclined to hysteria; eyes fill with tears

without apparent cause; complains of a sensation of fullness or choking at the bottom of the neck, and also of a feeling of great weight or oppression about the sternum; says, he "takes so long to breathe;" indeed he does, for his respiration is slow and sighing; chest everywhere resonant upon percussion; indeed, the resonance is increased; respiratory murmur feeble, with an occasional dry r  le or chirping. Cont. treatment, and give three or four wineglasses of brandy toddy per diem. 19th.—Same state as far as general condition goes; the oppression about the chest and throat, greater before breakfast, disappearing very much after that meal; rested better last night; the dusky redness has gone from every part, with the exception of the old scar; extensor tendons yet contracted; not so much hardness of the calf. Stop quinine and opium; cont. lime-juice and toddy, and R. Mist. ferr. comp., f.    ss., q. h. 6. 20th.—Feels better; appetite improved; some brightening up of the countenance; slept well last night; pain remains in the extensor tendons, which are yet in a contracted state; tenderness of the soles so much diminished as to allow the patient to walk about with comfort, which has not been so before today; less hardness of the calves; dark red color has returned again about the feet, more marked over the prominences, as the joints of the toes, the heels, extensor tendons, and over the tumors on the tarsus; these have diminished in size. Continue the treatment. 21st.—General condition improved; patient more lively and animated in manner and countenance; pulse improved in strength and fullness; pain, however, was so great last night as to prevent sleep altogether; supply of lime-juice exhausted; continue iron mixture and toddy, and give half a grain of morphine at night. 22d.—Improving, less pain, looks brighter, is stronger; continue treatment. 23d.—Improving; however, the pains are more troublesome, though the hardness of the calves is rapidly disappearing, as also the tumors upon the tarsus; continue treatment. 24th.—Vessel now in port. Patient stronger, but even now indisposed to any exertion whatever; general health appears perfectly good; pain remains in the hams, and about the tendons of the ankles; redness comes and goes. Continue compound iron mixture and morphine; give f.    ij. lime-juice four times a day, and oranges *ad libitum*. 25th and 26th.—No great change; patient gradually improving; continue treatment. 27th.—Slight pain in the various parts as before; when lying upon the left side a sharp pain shoots down the course of the ulnar nerve, going as far as the tip of the ring finger; patient improved in complexion, and has lost, in a great measure, that extreme dullness of expression which was so marked at the commencement of the attack; continue treatment. 28th.—Feels worse; says he came from the open deck a few minutes since, feeling perfectly well; has now (nine A.M.) a decided chill, skin cold and rough, pulse small and thready, face blue, features sharp and pinched, eyes filled with tears, no pain in the feet or ankles, some in the hams, little or no swelling about these parts now; complains bitterly of the lime-juice and oranges; says they are killing him; stop the lime-juice and oranges; give once a day a full dose of the compound iron mixture, and R. Quin. sulph.    i.; pulv. opii, grs. x.; M. ft. pil. No. x. S. one pill q. h. 6. 29th.—Feels much better; some pain about the hams yet; hardness of calves and tumor of the tarsus gone; hysteric symptoms not so prominent, but perceptible; anxious to return to duty; discharged him from the list, continuing the quinine and opium for several days; from which time nothing more in the way of complaint has been heard from the patient.

Were these cases of scurvy? It would not be well to imitate the older writers, who ascribed every anomalous affection to scorbutus, but yet the inference may be a fair one, that there was here a "scurbutic taint" at the bottom of these cases, producing the symptoms in the first, and modifying and being mixed up with those of an  mia in the second. Now this "taint" which exists with us has been banished from the British navy for more than half a

century, by what means a comparison of the respective rations of the two services will show.

The sea-ration of our navy is composed of from 30 to 40 oz. of solid nutriment per day; that of the British navy from 31 to 35   oz. daily. (*Carpenter's Hum. Phys. Am. ed.*, 1841, p. 342).

(To be Continued.)

#### RESULT OF A SERIES OF EXPERIMENTS WITH

### THE HYPOPHOSPHITES IN PHTHISIS.

By FREDERIC D. LENTE, M.D.,

SURGEON TO THE WEST POINT FOUNDRY, N. Y.

In the columns of the *London Lancet* the discussion of the merits of the hypophosphites is again renewed. Dr. Cotton, of the Brompton Hospital, again details the results of a series of experiments, and again records his verdict against their efficacy in phthisis. The same may be said of the experiments of Dr. Quain, of the Brompton Hospital, and other English physicians who have experimented with this remedy. Dr. Churchill complains in the *Lancet* that the experiments were not properly conducted, although admitting that the specimen of the drug used was genuine, since it was furnished by his own chemist in Paris, M. Swann. His complaint concerning other experimenters has been that the remedy was impure, it being difficult of preparation, and very liable to decomposition after manufacture. I believe that no detailed report of a trial of the remedy has appeared in this country, although the much-vaunted "specific" has been largely used by the public for several years. I have thought that your readers might perhaps be interested in learning the results of a somewhat extended trial of the remedy by myself, and I have for some time intended to give them publicity; and have now had my attention directed to the subject again by the discussion in the *Lancet* above alluded to. Dr. Churchill's allegations concerning the hypophosphites of lime, soda, etc., were so startling that, upon the first report of his experiments, and before the remedy was obtainable in this country, I determined to give it a trial. I accordingly procured the manufacture of the hypophosphite of lime by E. N. Kent, of New York, and subsequently by Mr. Chilton. I tried these on a variety of cases of phthisis in different stages, mostly in the earlier. In the same cases, or in many of them, I tried other remedies, as iron, cod-liver oil, glycerine, etc., not in conjunction with it, but before and after. I will not lengthen this article by giving my notes of these cases, as they would present a great similarity, and be unnecessary. The effect of the salt was negative; it was given in doses of five grains three times a day. Subsequently I tried the solution of the hypophosphites, which is sold all over the country. The result was the same. Desiring to test the matter thoroughly, and being somewhat favorably impressed with Dr. Churchill's theory of the action of phosphorus in a state of feeble chemical combination on the economy, I requested my friend, Dr. Edward R. Squibb, to manufacture a pure article for my experiments. Although having no faith in the remedy himself, he was kind enough to furnish it gratuitously, and to take especial pains to have it perfectly pure; it was put up in half-ounce glass-stoppered bottles, well secured, and, for fear of decomposition, the crystals were not allowed to dry, but were bottled in a slightly moist state. He only exacted a promise that I should give the result of the experiments. As Dr. Churchill cautions particularly against an over-dose, which, he says, may produce various congestions, and even hemorrhages from the mucous membranes, as of the nose, lungs, bowels, etc., I generally used only three grains of the salt three times a day in milk, at meals. In many cases finding, after repeated trials, no perceptible unpleasant effects, I increased the dose to five grains. But in only one instance did I ever know a patient to complain of any unpleasant consequence: this was a burning in the pit of the stomach, and



nausea; and the remedy was obliged to be given up. In a great majority of the cases no effect was produced by the remedy; in some a moderate improvement seemed to follow its use; but in most of the cases other remedies had produced better effects, or did produce better after being substituted for this. In a very few cases it seemed really to be efficacious where other remedies had failed. But in no instance did I observe those marked, prompt, and positive effects, ascribed to it by its inventor, Dr. Churchill. I should have mentioned that the salt manufactured by Dr. Squibb for me was the hypophosphite of potassa.

COLD SPRING, July 11, 1868.

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, Feb. 11, 1868.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

#### REMARKABLE DISPLACEMENT OF DECIDUOUS MOLAR TOOTH.

DR. POST presented an anterior deciduous molar tooth removed from the jaw of a little girl six years of age. The tooth had grown horizontally across the alveolar process, the crown looking towards the tongue, while a portion of a fang was buried in a groove in the cheek. This remarkable displacement was probably due to the fact that the permanent tooth had encroached upon the tooth in question.

DR. CONANT remarked that he had in his possession a skull in which a wisdom tooth had been growing almost directly outwards.

#### FIBRINOUS DEGENERATION OF EYE—EXTIRPATION OF EYE.

DR. NOYES presented, first, an extirpated eye, which illustrated fibrinous degeneration as the result of chronic inflammation. It was removed from a young man twenty-one years of age, who, while upon a sidewalk, was struck upon the ball of the eye by a slate which fell from the roof of a house. As a consequence inflammation of the eye took place, and becoming chronic, the deep structures became seriously involved, resulting in very extensive fibrinous degeneration.

#### OSSEOUS CHOROID.

The second specimen was an instance of osseous choroid, the result also of inflammation following a wound of the eye. Shortly after the receipt of the injury, the inflammation went through its usual course, terminating in collapse of the eyeball. The patient suffered no inconvenience for many years after, when finally the organ became tender and congested, and soon the vision of the other eye was interfered with. Dr. Noyes remarked that it was almost certain to find osseous degeneration of the choroid followed by sympathetic trouble of the opposite eye; indeed this had been the most prolific source of the sympathetic irritation referred to.

#### OPACITY OF CORNEA FROM CALCAREOUS DEPOSIT.

The third specimen consisted of an opacity removed from the cornea of a child that afternoon. The general appearances of the said opacity were such as to give rise to the suspicion that it had been occasioned by the deposit of some of the salts of lime, as the direct results of an inflammation which had previously existed.

In answer to a question from Dr. Conant, Dr. Noyes stated that the osseous deposits in the eye presented under the microscope all the essential anatomical elements of bone tissue.

#### MALIGNANT DISEASE OF LEG—AMPUTATION.

DR. JAMES R. WOOD presented a specimen of osteosarcoma, and remarked upon it as follows:—About six

weeks since I was requested to see a young gentleman, eighteen years of age, with an enlargement over the anterior and lateral aspect of the leg. During last September he fell upon a wagon at the country-seat of his father, and bruised his skin. Shortly after he suffered from severe pain, which continued to increase without much swelling for a month or six weeks. At this time a considerable swelling occurred over the anterior aspect of the leg, about three inches below the knee. This continued to increase, when he came to town to consult several eminent surgeons. When I saw him I found a swelling about the middle of the lower third about the size of half a sixpenny loaf of bread, extending to within an inch of the knee-joint. It was so soft at its most prominent portion that two of our most eminent surgeons were disposed to think that fluid existed at that point. I found on careful examination that the tumor presented what to me was quite characteristic of malignant disease, viz. a peculiar thrill communicated to the touch. By pressure upon the artery above the disease, the tumor could be made to decrease in size, and when the pressure was removed, it would resume its former dimensions. It went on growing rapidly, and on Monday last I amputated the thigh about its middle third, assisted by Dr. Buck, who saw the case for the first time in consultation with me that day. The specimen, as here seen, presents the usual appearance of osteocephaloma, or as it is sometimes styled, osteo-sarcoma, or fungous hamatoides. That portion of the tumor which gave the deceptive sensation of fluctuation was found composed of a very soft material resembling brain-substance.

An interesting question comes up in this connexion in reference to amputation. I know that a good many surgeons in New York have been opposed to the performance of the operation, and I know that a number who opposed the amputation years ago have been converted to a different opinion, and now practise it. The same disease occurs in the antrum maxillare, and it is well known that where the diseased portion has been removed, it has reappeared upon the opposite side. I suppose that most of us who have performed this operation have had success of this kind. But I know that occasionally the same disease occurring in the extremity is arrested in its development.

I presented the last specimen of this disease to the Society about three years ago. The patient was a middle-aged man, whose limb I amputated at his house in Kingston, Ulster Co. A little more than a year after the amputation his physician, Dr. Von Hovenburgh, informed me that the patient had died of pure pneumonia, there not being a single vestige of cancerous disease found. I have two patients alive, one whose limb I amputated some ten or twelve years ago for this disease. That specimen was presented to the Society, and a microscopical examination of the tumor made by Dr. Clark, who pronounced it cancer. The leg of the other patient I amputated since. Dr. Buck has a young lady coming to his office whose leg was amputated some months since, and who is perfectly well. Dr. Mott, one of the surgeons who saw this case, gives the same experience.

I saw in consultation with Drs. Forrester, Mott, and Parker, a case of a young lady who had the disease situated above the knee. Amputation was resorted to, but the disease returned, extended to the groin, and the patient died a most horrible death from exhaustion.

When this disease occurs in the course of a limb, in my opinion it is not only good practice but it is humane to remove it by amputation. It is remarkable that under these circumstances the patients almost always do well for a time, the stump heals kindly, and if the disease returns the sufferer is made easy at least a year. Then, again, if it does return it hardly ever attacks the stump, but its most frequent seat of recurrence is in the groin, or the ganglia just above Poupart's ligament.

Dr. Post agreed perfectly with Dr. Wood as to the relief afforded to patients suffering from this disease by amputation. Even if the disease did recur it was less apt



to occasion as much suffering as if it were in its original seat.

#### REMARKABLE ARREST OF CANCEROUS DISEASE BY OPERATION.

Dr. CONANT referred to a remarkable case of arrest of cancerous disease by operation which had occurred twenty years ago in the practice of Dr. Mussey. The disease first made its appearance in the thumb, and that member was amputated; recurring in the stump the hand was amputated; and continuing to return, the forearm, arm, and shoulder were successively removed; and last of all it was found necessary by Dr. Crosby, who then had charge of the case, to remove the scapula and clavicle. The disease never returned after this last operation, and the subject of this series of operations is now perfectly well. Dr. C. also referred to a case of this disease occurring in the lower end of the femur, where amputation was advised. The patient was a female, thirty years of age, and refused to have the operation performed. The result was that in time the entire foot sloughed off, together with nearly all the flesh of the leg, and the patient finally died in the greatest agony, worn out by loss of blood and bed-sores.

Dr. Wood was very much opposed to exploring tumors which were supposed to be malignant, unless it was with a view to have amputation of the limb performed immediately afterwards. Otherwise the tissues of the tumor were apt to break down, and hasten the death of the patient.

#### DISTORTION OF LOWER EXTREMITIES FROM HYPEROSTOSIS.

Dr. POST was of the same opinion.

Dr. FINNELL presented the lower extremities of a man, twenty-seven years of age, which were the seat of very extensive hyperostosis. The deformity occasioned thereby was most extraordinary and frightful: the two tibiae were very considerably bowed from before backwards, the knee-joints were increased by irregular and ragged bony prominences to nearly three times their natural size, while the small bones of the foot were distorted by the abnormal growth to such an extent and degree as to be almost unrecognisable. The right leg was more affected than the left, and in the cavity of that knee-joint were found several pieces of detached bone. With all this distortion the patient was able to get up and down stairs without much difficulty, and follow his vocation, that of a cigar-maker, until within two days of his death. There were no abrasions of the skin over the prominent points. He was an illegitimate child, and an attempt had been made to prevent his birth. The father and mother were healthy. The disease was confined wholly to the lower extremities. Death was occasioned by intemperance.

The Society then adjourned.

### FOREIGN CORRESPONDENCE.

#### LETTER XLII.

By PROF. CHARLES A. LEE.

ROME.

Nov. 27, 1862.

I NEXT turned my steps towards the Hospital of St. James, *San Giacomo*, as it is called by the Romans. This is one of the most beautiful of the Roman hospitals, though not as large as some of the others. It dates as far back as 1339, and was founded by the executors of Cardinal Colonna, in compliance with his testamentary request. During the present century it has been much enlarged and improved by Pius VII. and Leo XII. It was founded originally for the treatment of ulcers and other loathsome diseases, but in 1515 Leo X. set it apart especially for the reception of leprosy and syphilitic affections. In 1855 the whole building was restored, or rather re-erected, by the present Pope, Pius IX., and opened for the reception chiefly of syphilitic diseases in persons of both sexes, in August, 1856. The main ward is one of the noblest halls in Rome, being 340 feet in length, and of corresponding

height and width; giving ample room for two rows of beds on each side of the centre, along which runs throughout its whole length a pavement of pure white marble, six feet in width, and of the finest quality. The windows are placed high above the floor, thirty feet or more, and access to them is furnished by a light gallery on each side. The register showed the present number of patients to be 265, 110 males and 155 females. The female ward is not so elegant or so well fitted up as that of the males, the ceiling being lower. In both two rows of beds extended on each side of the centre throughout their whole length. Many of the females were sitting up and busily engaged in knitting, sewing, etc. The institution is managed by a government commission, appointed by the Pope, and is attended by four principal physicians, aided by several assistants, one or more of whom must be in the house all the while. One ward was principally occupied by sick children; there being no hospital in Rome especially appropriated for children, they are scattered about through all the hospitals, an arrangement liable to many serious objections. The male nurses were *Brothers of the Religious Order of St. John of God* (aided sometimes by other orders), a confraternity devoted to the care and nursing of the sick. The female department was in charge of the *Sisters of Mercy*, an order devoted to the same pious vocation. There was a small clinical ward set apart for cases illustrating the lectures which are given here from time to time by professors of the University, and a similar arrangement exists in the other large Roman hospitals. All the patients are visited three times daily, morning, noon, and evening, and the utmost care bestowed on every case. The institution is designated as the Hospital of Incurables, but although formerly it may have deserved such an appellation, it does so no longer, as the former rules of admission have been greatly relaxed, and large numbers of cases are annually discharged. There is a good lecture-room and a very respectable library connected with the hospital. Patients are admitted here, as in all the Roman hospitals, irrespective of age, country, or religion, and all receive equal care and attention. This hospital was a favorite resort of the celebrated St. Philip Neri, and it is constantly visited by ladies belonging to the wealthiest and noblest families of Rome, for the purpose of using their gentle but powerful influence in consoling and reclaiming the unfortunate females whose vicious lives have driven them to seek refuge and treatment within its walls. It speaks well for the kindness and benevolence of the Pope that he occasionally makes unexpected visits to the hospitals and other public institutions of Rome, and examines personally into all the details of their management. This insures perpetual vigilance and untiring devotion to duty.

I next visited *San Giovanni di Calabita*, situated on the island of St. Bartholomew in the Tiber, and occupying the very spot where once stood the pagan temple of Esculapius, or a hospital attached to it. It sometimes is called *dei Benfratelli*, or *Fate bene, fratelli* ("Do good, brethren"), derived from the inscription on the begging-box of the friars of the order of the Spanish *San Juan de Dios de Calabita*, by whom it was founded in 1538, during the pontificate of Gregory XIII. It is under the care of the Brothers of St. John of God, an order especially instituted by its holy founder for attendance on the sick. It is devoted solely to male patients affected with acute diseases. The principal hall or ward is 200 feet in length, 40 feet in width, and of equal height, containing ninety-four beds, a majority of them occupied. The mortality is on an average about 8 per cent. Like most, if not all the Roman hospitals, it has a small but elegant chapel rising in the centre of the corridors, thus giving an opportunity to all the patients of witnessing and participating in the religious services. As to the particular treatment of the acute affections which are here received, I could gain no very definite information; I however ascertained that bleeding and leeching were often resorted to in connexion with the other well known antiphlogistic measures. I was pleased

also, to observe in this hospital a ward set apart especially for strangers and the clergy who may happen to fall sick in Rome. There is a pleasant promenade in the rear of the main building, overlooking the Tiber, where convalescent patients take their daily walks. The hospital is entirely supported by voluntary contributions, each contributor or benefactor having the privilege of sending patients, the number being proportionate to the amount of his subscription. The apothecary department was in a large, splendid room, with marble floors, frescoed ceiling, and adorned with statues and paintings, marble counters, cases with glass doors, etc., etc. In the centre of the room stood a beautifully polished granite column, surmounted by an elegant statue of the Virgin Mary.

The next hospital I visited was *San Gallicano*, in the Trastevere, for cutaneous diseases in persons of both sexes. It was founded in 1722 by Emilio Lami, a priest, as a hospital for leprosy, a disease now rarely met with in any part of Italy. It was enlarged in 1754 by Benedict XIV., but many of its improvements are owing to the pious care of the present Pope. There is ample accommodation for 250 to 300 patients, of both sexes, adults and children, but at the time of my visit the register showed but 160. There were two rows of beds on each side of the wards, and canopies, as usual, for curtains. A majority of the children were afflicted with tinea and psora in some of their forms. The service is rendered by three physicians. There is a beautifully fitted-up chapel for each sex. The average duration of treatment for cases of tinea is about one year, many being a year and a half under treatment. But their time is not wasted. The boys are placed under the care of the Mothers of St. John of God, by whom they are taught reading, writing, and arithmetic, and are thoroughly grounded in catechism and Christian doctrine, thus undergoing a course of education and a course of physic at the same time. The girls not only receive literary and religious instruction, but are also taught needlework and various useful occupations. They are under the special charge of the Sisters of Charity, who spare no pains to indoctrinate them in the principles of religion, to impart useful information, etc. Separate bath-rooms are provided for both sexes. In short, the whole establishment seems complete in all its departments, clean, and well ventilated, and reflects the highest credit on its managers. The *Santissima Trinità di Pellegrini* is the great convalescent hospital of Rome, containing full five hundred beds, and affording relief to more than 11,000 patients annually. It was founded by St. Philip Neri in 1550, and was destined for the reception of pilgrims on their visit to Rome during Jubilee and Holy Week, as well as on other occasions. Boniface VIII. instituted the Jubilee in the year 1300, and this has been the great source of pilgrimage to Rome, from that time to the present. It was intended at first to have it take place every hundred years, but the time was shortened by Clement VI., whose seat of government was at Avignon, who ordained it in the year 1350; and it was further shortened to a quarter of a century by Paul II. in 1475. To succor and relieve these pilgrims, St. Philip Neri founded the confraternity of the Holy Trinity in 1550, and, in the absence of such, for the reception of convalescent patients from other hospitals. "Paul IV. granted the confraternity a convenient building for a hospital, and Clement XII. added refectories, in which about 1000 persons can receive their meals at the same time. In Jubilee years the number of pilgrims is immense, and even in ordinary years, especially at Easter, it is considerable. To be received they must have come from a distance of at least sixty miles, and have brought with them certificates from their bishop and parish priest, that the object of their journey was to visit the holy places. Italians are entertained for one day, Ultramontanes two, Portuguese five, and so on. In the Jubilee of 1825 the number of pilgrims who received hospitality was 263,592; and the expenses of that under this head amounted to 64,644 dollars." In ordinary years, however,

only about 4,000 of these travellers are lodged in this hospital. There has been a gradual falling off during Jubilee years, for we read that in 1625 as many as 582,169 were entertained in this hospital, and in 1728, 382,140.

The wards in this establishment are of immense size, I should judge over three hundred feet in length, and corresponding proportions. Two are appropriated solely as eating-saloons for pilgrims, of whom there are several hundred every day, at meals; they are also furnished with comfortable lodging in the dormitories. There is a large church or chapel connected with the hospital. There are two large rooms connected with this hospital set apart for the bathing of the feet of the poor pilgrims on the Wednesday, Thursday, and Friday of Holy Week. The rooms are about forty by twenty-five feet, with a seat running around the walls, and beneath are niches each holding a wooden foot-tub of five or six gallons' capacity, in which the Roman nobility, and several of the cardinals and other high church dignitaries, perform the office of washing feet. The tubs are all numbered, and I noticed that there were seventy-two in each room. Ladies of the highest rank, including the Queen of Naples and other princesses, perform the same office for the poor women. As a religious custom I have no objection to it—indeed, it has many beautiful features about it, and scripture can be quoted in its favor; but a hygienist might wish that the ablutions could be extended to the whole body. The next hospital, in the order of visitation, was *La Consolazione*, situated near the Tarpeian Rock, now reduced by accumulations of rubbish to about thirty feet in height. It stands at the base of the Capitoline Hill, and was founded and enlarged by Cæsar Borgia. Its main hall is about two hundred feet long, and contained ninety beds, of which forty only were occupied. The present Pope has added a new wing to this, containing about twenty beds. The width of the halls, forty feet, and the great height of the ceiling, allow of two beds to be placed at each side, as at San Spirito, should occasion require. It is appropriated to patients of both sexes for surgical diseases, especially accidents, as wounds, burns, fractures, etc. Being situated near the populous quarters of the Monti and Trastevere, most of the cases of stabbing are taken to it, and it is never free of cases of this kind. I witnessed a post-mortem examination here of a poor fellow who had been stabbed in the thigh, wounding both femoral artery and vein, and although the artery had been tied, he died of venous hemorrhage twenty-one days after the accident. The wards were perfectly clean, and admirably ventilated by the large windows above and openings in the walls below near the floor. The beds, which were about five feet apart, were good, clean, and comfortable, the bedsteads of iron, and everything bespoke the utmost care and attention. The brick floor, as usual, was the only drawback. Six secular clergymen constantly reside in a house attached to the hospital, which is also attended by Jesuits and other religious orders. A number of novices also give their constant attention to the sick. Here, also, there is a handsome chapel, the altar of which is visible from every side, where mass is daily celebrated for the benefit of the patients. From all I have seen and heard, I can have no doubt that this salutary provision for the comfort and consolation of the patient is of great value in aiding the efforts of the physician and contributing towards a cure, and I cannot withhold my tribute of admiration for a clergy who show such fearlessness, faithfulness, zeal, and devotion, in promoting the spiritual and temporal interests of the afflicted poor—an example worthy of all imitation by the religious, both clerical and lay, of all Protestant denominations. On the opposite side of the street is the hospital for women. There were but thirty or forty patients, but everything betokened the best management. The hall was large, clean, and well aired, and similar arrangements as regards chapel, etc., as in the male department. There is a small museum in this hospital, containing some beautiful wax preparations by Professor Sartori. There are also

some handsome dissections showing the nerves of the arm and leg, etc. One or more physicians are always in attendance here, ready to attend any cases that may be brought in.

## American Medical Times.

SATURDAY, JULY 25, 1863.

### RIOTS AND THEIR PREVENTION.

AMONG the improvements which the Emperor of France is said to have recently introduced into Paris, is the removal of a large group of thickly clustered but dilapidated and wretched tenement houses, and the conversion of the site into a public square. The work was undertaken ostensibly to beautify that portion of the city. Those familiar with the history of these abodes of poverty, however, remember this locality as the place where have originated many of the most terrible riots with which that city has been visited; and they shrewdly suspect that the real motive of the Emperor was to destroy the nidus of future mobs and revolutionary movements. The example is one worthy of imitation, in a modified sense, on the part of our city, as we shall demonstrate.

During the past week New York has gone through one of those ordeals of anarchy so common in European cities during civil commotions. Within a few hours of the commencement of riotous proceedings the civil authorities were completely ashore, and in the universal agitation of society the very dregs seemed to float to the surface, and surged to and fro along the streets and avenues, uncontrollable elements of destruction. Business was suspended; public conveyances ceased their rounds; places of public amusement were deserted, and a pall of gloom hung over the city as if some terrible judgment was impending. Few citizens were seen abroad, but at every turn were groups of persons seldom if ever before met in the more respectable parts of the town. Their garments were ragged and filthy, and their faces, stamped with every crime, gleamed with the ferocity of unbridled passions. Individual acts of violence occurred on every hand, and this terrible carnival of murder and arson culminated on the first day in a grand ovation to the demon of the mob in the conflagration of an orphan asylum over the heads of several hundreds of helpless, homeless, and fatherless children. No mob can show a blacker record than that which disgraced New York on July 14, 15, and 16, 1863.

The various political and social phases of this great riot will be largely discussed in the daily papers, but there are some things worthy of record as gathered from a professional standpoint. It is a noticeable fact that the rioters represented for the most part the lowest and most abandoned class of the poor. They proceeded from those districts of the city notorious for their filthy and unpoliced streets, and wretched and uninhabitable tenement houses. Here live and grovel in darkness, filth, drunkenness, and disease, a large population, roughly estimated at twenty thousand. The following description of this class, as drawn by MR. N. P. WILLIS, an eyewitness to the scenes of arson and murder during the late riot, will be recognised as

truthful by every physician whose duties may have led him into these abodes of wretchedness:—

"The high brick blocks and closely packed houses in this neighborhood seemed to be literally hives of sickness and vice. Curiosity to look on, at the fire raging so near them, brought every inhabitant to the porch or window, or assembled them in ragged and dirty groups on the sidewalk in front. Probably not a creature, who could move, was left in-door at that hour. And it is wonderful to see, and difficult to believe, that so much misery, and disease, and wretchedness, can be huddled together and hidden by high walls, unvisited and unthought of, so near our own abodes. The lewd, but pale and sickly young women, scarce decent in their ragged attire, were impudent, and cattered everywhere in the crowd. But what numbers of these poorer classes are deformed, what numbers are made hideous by self-neglect and infirmity, and what numbers are paralytics, drunkards, imbecile, or idiotic, forlorn in their poverty-stricken abandonment for this world! Alas! human faces look so hideous with hope and vanity all gone! And female forms and features are made so frightful by sin, squalor, and debasement. To walk the streets as we walked them, for those hours of conflagration and riot, was like a fearful witnessing of the day of judgment, with every wicked thing revealed, every sin and sorrow blazingly glared upon, every hidden horror and abomination laid bare, before hell's expectant fire. We have not made the character of 'the mob' a part of our description—it has been done so fully by the daily journals. But we must add our confirmatory remark upon one peculiarity of the confessed rioters. *There were no DECENT Irish men among them.* Irish they all were—every soul of them—but they were the dirty, half-drunken, brutal rowdies, who are the leprosy of that fair-skinned race. They were the filthy pustules of an eruption on the Irish skin—not to be accounted part of the natural complexion of the blood, but starved down and purged away like a diseased excess. In ordinary life, such fellows sneak about, and hide from daylight, in places where they can drink, and debauch, and contrive wickedness; but here—where this grand fire made them feel like masters, and gave them impudence for the hour—they were the pictures of saucy beggars, half-drunken brutes and robbers, longing to put a clutch upon your throat, and empty your pockets."

It was also noticeable that while business was generally suspended, every establishment where liquor is sold was open, and crowded with customers. Many of the more central grogshops had been previously supplied with money by the chief conspirators, and were directed to give the crowd unstinted measure whenever it made its demand. This was done, and it is due principally to liquor that the inhuman barbarities were practised upon individuals, and many of the attempts of arson were made. Hundreds of industrious laborers driven from their work, and left to wander about the streets, were thus made fiends of the most malicious and daring kind. Scarcely an overt act of violence was perpetrated that was not directly traceable to intoxication.

It would be lamentable, indeed, if the fearful lesson which this deeply laid conspiracy against the property and lives of our citizens has taught were allowed to pass unimproved. Transparent as is its political significance, its social bearings are not less clear. We learn the source from which must spring every lawless outbreak against order, law, and the peace of society. The elements of popular discord are gathered in those wretchedly constructed tenement houses, where poverty, disease, and crime find a fit abode. Here disease in its most loathsome form propagates itself from parent to child, more and



more aggravated with each generation. Deformities of the body, typical of mental and moral aberrations, are seen in every household. Unholy passions rule in the domestic circle. Trained in such a school, children grow destitute of every generous impulse, and habituated to scenes of cruelty and vice. Everything within and without tends to physical and moral degradation. The noisome atmosphere which they breathe, the scanty and depraved food which they eat, combine to dwarf the body and mind, and lead to the most vicious habits. Here, in the tenement houses of our city, we find the seeds of civil discord, of every species of vice and crime, always ready to germinate with the slightest stimulation. Relax the legal restraints which surround the tenants of whole blocks of buildings, and madden them with rum, and they rush forth prepared to commit the most fiendish acts. As long as New York disregards the home life of this class of the poor, she nourishes in her bosom a viper which any day may inflict a fatal wound.

The great and patent prevention for riots like that which we have witnessed is radical reform of the homes of the poor. No family circle can be practically virtuous which grovels in the cellar or the garret, deprived of the sunlight and fresh air; nor can a family be very vicious which enjoys airy and spacious rooms, and is surrounded by the health-giving influences of pure air, sunlight, cleanliness, and thrift. Every family in this city could be thus accommodated, did our authorities care to undertake the work. The old rookeries in crowded and filthy districts should be destroyed, and new and convenient houses built. Tenement houses can be made convenient for families, with sufficient air-space and sunlight, proper rooms for cooking, eating, and sleeping, and still be remunerative. But no landlord will consult the wants of his tenants until compelled to do so by the rigid enforcement of law. To accomplish this necessary and now imperative reform, we must have a clean Board of Health. An enterprise involving such important municipal improvements will never be carried successfully forward by a mere political official. No less important is it that the retail of ardent spirits should be placed under more stringent regulations. At present the largest license is given, or at least taken, and a rising mob finds at every corner the maddening draught awaiting its arrival. Dram-drinking, like prostitution, is one of those terrible social evils which every philanthropist wishes blotted out of existence, but which is still subjected to only a very modified control. This control should be more absolute than at present. In times of popular excitement every grog-shop should be closed, and the sale of liquors made penal.

If the reforms which we have suggested could now be effected, the terrible lesson which New York has learned would not be in vain.

#### THE WEEK.

THE Coroners of New York enjoyed a very fine harvest during the riots. They seem to have gone through their inquests with remarkable despatch. We cannot learn that any investigation has yet been instituted by a coroner in regard to the circumstances attending the deaths of the persons concerned. We trust it is not true, as alleged, that not a Coroner has dared to examine a case or make an autopsy, lest he should incur the displeasure of the

mob. Such imbecility in county officers, not less important than the Sheriff, would deserve the severest censure.

SEVERAL striking differences are noticeable between soldiers and rioters. The soldier seldom admits that his wound was received in the back, but the rioter always places himself in the position of retreat when describing the manner of receiving his wound. Again, the soldier will seldom part with the missile which is removed from his wound, prizing it as a most honorable evidence of his bravery; the rioter, on the contrary, does not wish to retain this witness to his shame and crime.

ONE of the most deplorable results of an attempt to suppress mobs by military force is the destruction or maiming of the innocent. Of the three or four score wounded taken to the hospitals several were little boys and girls. The wounds are of the most frightful character, and will leave permanent deformity.

## Obituary.

JOHN WATSON, M.D.

DR. JOHN WATSON was born in Londonderry, Ireland, in April, 1807. His parents (of Scotch descent) emigrated to this country in 1810, and in 1818 became residents of this city. Young Watson received a good English education, with some instruction in the Greek and Latin languages, but his circumstances did not permit him to enter college. For two years he was engaged in school-teaching as a means of support. In 1827 he entered the office of Prof. J. M. Smith as a student of medicine, where he was distinguished for his industry and most assiduous devotion to study, taking full notes of all the lectures, with daily attendance upon clinical instruction at the New York Hospital. Before his graduation he served as house surgeon at the hospital, and after passing a most creditable examination the degree of Doctor of Medicine was conferred upon him, in March, 1832. In 1833 he was appointed one of the attending physicians of the New York Dispensary, in Centre street, and retained the office for several years. In the spring of 1835 he spent a few months in Great Britain and on the Continent, in company with an invalid family: thus having afforded him an excellent opportunity of visiting medical schools and hospitals, as well as of forming many valuable acquaintances among the most distinguished of the profession, with many of whom he continued in active correspondence in after life. In 1836 he was, with others, instrumental in forming the New York Medical and Surgical Society. In 1837, in connexion with Drs. Swett, Beales, Bulkley, Adams, and Roberts, he established the "Broome Street Infirmary," and in the following year the same parties, in conjunction with Drs. Post, Buck, Macdonald, and Vandervoort, established the "Broome Street School of Medicine," with courses of lectures in the spring and fall during the college recess. Dr. Watson filled the chair of Surgical Pathology for three years, when the school became merged in the spring course of the College of Physicians and Surgeons. Having been appointed in 1838 one of the surgeons of the New York Hospital, he first introduced regular clinical instruction by courses of lectures, although to Dr. A. H. Stevens is due the honor of having first delivered occasional clinical lectures in this institution. Dr. Watson here was instrumental in establishing many reforms, more especially as regards heating and ventilation, upon which subjects he published a valuable monograph in 1851. He continued twenty-four years in office. In 1839 Drs. Swett and Watson established the *New York Medical and Surgi-*

*cal Journal*, published quarterly; it was conducted with great ability, and was well patronized, but closed its career after two years' existence, the expenses having, as usual, eaten up the profits. In 1837 Dr. Watson accepted propositions from Dr. Alex. H. Stevens to become his associate in practice, and, upon the retirement of Dr. Stevens in 1849, succeeded to a large and most lucrative business. This was the turning-point of his career, and determined the fortunes of his after life. In 1847 he took an active part in the organization of the American Medical Association, and also of the New York Academy of Medicine, although, for private reasons, he did not become a fellow of the Academy until many years after. He was twice elected Orator, and in 1859 had the honor of being chosen its President. In the spring of 1862 the insidious approaches of his fatal malady, scirrhus of the rectum, first manifested themselves, and he was debarred from the active exercise of professional duties. He was confined to his room and to his couch for more than twelve months previous to his decease, and during this long period of suffering displayed great fortitude and resignation. His death occurred on the morning of the 3d of June. Dr. Watson, though not a learned man in the strictest sense of the term, was yet familiar with the writings of the early Greek and Roman medical authors, and, through translations, with the Arabic. It was his pride and pleasure to collect together without regard to expense the best editions of the early writers on medicine, and he has left behind him in this regard the most valuable private library in this country. He was a voluminous writer, as the medical journals for the last thirty years bear testimony, in monographs and published cases; but the greatest efforts of his pen will appear in his posthumous publications. These are entitled, "The Obscurities of Disease," "Clinical Acumen, or Sources of Misjudgment in the Study of Disease," and "A History of Medicine." Ardent in his attachments, impulsive and irritable in his temperament, but not vindictive, a learned and skilful practitioner, a judicious counsellor, his death has created a blank in the profession not easily filled; while his career presents a remarkable instance of successful industry under early disadvantages, and an example worthy of all imitation. "*Vale, in æternum, vale.*" J. G. A.

## Correspondence.

### REMARKS ON THE ORDER OF THE SURGEON-GENERAL.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I was much gratified with the timely and temperate remarks upon Circular No. 6, of Surgeon-General Hammond, contained in the editorial of your issue for the 20th ult.; and the speech of Surgeon Cox, and the letter of the Surgeon-General, which have appeared in the two subsequent numbers, give promise that the spirit which dictated the circular, and the facts on which it rests, will presently come to be understood and appreciated by all candid and discriminating medical men, whether in the army or in civil life.

The affair, as put by the Surgeon-General, is very simple and pointed, viz.: from official reports of Inspectors, Medical and Sanitary, and from modern pathology, he learns that calomel and tartar emetic are very much abused by military surgeons, are not essential to the proper management of diseases incident to soldiers, and that the evil arising from the abuse of drugs in the army outweighs the good that flows from their proper administration.

If honestly convinced of these premises, the Surgeon-General would be guilty of a dereliction of duty and great inhumanity if he had not done just what he did do. Then what is there in his action to make heat and bad blood among

medical men? And yet there has been manifested an asperity of feeling and an intemperance of language by some members of the profession rarely, if ever, before witnessed. This intense perturbation is only to be accounted for on the theory that there is in the profession a species of feticism, whereof calomel is the idol, and the Surgeon-General is cursed as an iconoclast by these disciples with all the bitterness and blindness common to heathen idolators.

Measured by the rule usually applied to the interpretation of public documents, nothing can be found in the circular asserting general ignorance in military surgeons, or in anywise reflecting upon private practitioners. It implies what every one knew before, that there are some ignorant and incompetent surgeons in the army. From the hands of such unwise practitioners the Surgeon-General takes the flaming swords of calomel and tartar emetic: all others know how to treat disease as well without these agents as with them. He has, therefore, by a happy expedient, devised a means of preventing the incompetent from doing mischief with two powerful drugs, and has not thereby taken anything essential from the hands of the competent.

The asserted inconsistency of the Surgeon-General in cutting off the supply of calomel and permitting unobstructed access to the other preparations of mercury, is, in fact, a conclusive evidence that he proceeds upon a just and enlightened understanding. He has no quarrel with mercury: it is an excellent medicine, and he leaves seven different preparations of it in the supply table for the army, obtainable as all other drugs are obtained. Calomel has been abused, has caused great and unnecessary mischief, and he has, therefore, placed it, not entirely out of reach, but in such position that special exertions are required to obtain it. This will serve, not only as a very pointed caution in the use of calomel, but also act as an excellent monitor to the judicious exhibition of all mercurials, and go far towards abolishing the evils arising from the careless administration of them.

Comparatively few physicians now prescribe calomel and tartar emetic to the extent it was done a few years since; and there are some who discard these drugs almost entirely, using the milder and less perturbing medicines of the same classes to accomplish the ends formerly sought to be attained through their agency. Probably no one familiar with the present state of medical science and the resources of our pharmacopœia, regards calomel and tartar emetic as indispensable agents in the treatment of disease; doubtless many look upon them as great conveniences, but that is the highest position that can at present be claimed for them.

Let the profession give this circular, and the effects it will produce, a calm, unprejudiced, and deliberate consideration, and I venture the prediction that it will prove a boon, not only to the army and military surgeons, but also to the people and civil practitioners of medicine.

Yours etc.,

JAS. F. HIBBERD, M.D.

RICHMOND, IND., July 10, 1863.

## Army Medical Intelligence.

ORDERS, CHANGES, &c.

SPECIAL ORDERS, No. 304.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 9, 1863.

2. Surgeon W. Clendenin, U.S.V., will report without delay to the Commanding General, Department of the Cumberland, for duty.

5. So much of Special Orders 126, current series, from this Office, as dismisses Surgeon W. D. Stewart, U.S.V., is by direction of the President revoked, and he is hereby reinstated in his former position in the army.

17. Assistant-Surgeon James F. Weeds, U.S.A., is, on account of sickness, hereby relieved from duty in the Department of the Cumberland, and will report in person without delay to the Surgeon-General.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## SPECIAL ORDERS, No. 300.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 7, 1863.

9. Assistant-Surgeon A. W. Tryon, 100th New York Vols., will report in person, without delay, to Surgeon R. O. Abbott, U.S.A., Medical Director, Department of Washington.

14. Leave of absence is hereby granted to the following Officer:  
Assistant-Surgeon E. M. Corson, 69th Pennsylvania Vols., for twenty days.

The following assignment of Medical Officers is hereby made:  
Assistant-Surgeon Joseph C. Baily, U.S.A., now on duty at Fort Monroe, Va., to report to Surgeon Jonathan Letterman, Medical Director, for duty with the Army of the Potomac.

Assistant-Surgeon Harvey E. Brown, U.S.A., now on duty at Portsmouth Grove, E. I., to repair to New York city, and report to Major-General Wool, commanding Department of the East.

Medical Inspector W. H. Mussey, U.S.A., now on duty in this city, to report to General Kelly, commanding Department West Virginia.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 288.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 26, 1863.

14. Surgeon James Holland, 1st Massachusetts Cavalry, is hereby honorably discharged the service of the United States, on account of physical disability.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 281.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 25, 1863.

9. The following officer, having tendered his resignation, is hereby honorably discharged the service of the United States:  
Assistant-Surgeon John M. Huston, 48th Pennsylvania Vols., on account of physical disability.

16. The following officers (published officially May 25th, 1863), having failed to appear before the Military Commission instituted by Special Orders No. 53, current series, from the War Department, within the prescribed time, the President directs that they be dismissed the service of the United States, to date May 25, 1863, for the causes set opposite their respective names.

Disobedience of orders, failing to report for medical treatment in this city, as ordered.

Assistant-Surgeon Elbert Rowland, 137th New York Vols.  
17. So much of Special Orders 109, current series, from this Office, as musters out of service Surgeon Herman B. Linton, 175th Pennsylvania Vols., for "inefficiency and neglect of the sick," is hereby amended so as to honorably discharge him from the service of the United States, to date January 18, 1863.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 293.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 6, 1863.

5. Surgeon T. Sim, U.S.V., now attending Major-General Sickles, U.S.V., will remain on that duty until further orders.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 288.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 30, 1863.

5. The following enlisted men are hereby honorably discharged the service of the United States, to date May 31st, 1863, having been appointed Clerks in the Surgeon-General's Office:

Hospital Steward E. J. Keferstein, U.S.A.  
Hospital Steward M. H. Van Der Veer, U.S.A.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 275.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 22, 1863.

1. Leave of absence is granted the following named officers, on Surgeon's certificate of disability:

Surgeon J. G. Perry, 30th Massachusetts Vols., for thirty days.

5. Surgeon George Suckley, U.S.V., will report in person, without delay, for duty to Major-General Schenck, commanding Middle Department, as soon as his services can be dispensed with in the Army of the Potomac.

11. The appointment of Sherman Morse, as Assistant-Surgeon, 2d New York Cavalry, March 25, 1863, is hereby revoked, he having failed to report for duty with his regiment.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## SPECIAL ORDERS, No. 279.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 24, 1863.

2. The following assignment of medical officers is hereby made:  
Assistant-Surgeon James M. Shearer, 12th Pennsylvania Reserve Corps, now on duty with his regiment, to report to the Medical Director, Department of Washington, for hospital duty.

Assistant-Surgeon W. E. Norris, U.S.A., recently appointed, to report to the Medical Director, Department of Washington.

Assistant-Surgeon Michael Hillary, U.S.A., recently appointed, to report to the Medical Director, Middle Department, at Baltimore, Md.

Assistant-Surgeon Edward Cowles, U.S.A., recently appointed, to report to Surgeon W. S. King, U.S.A., Medical Director, Department of the Susquehanna, at Harrisburg, Pa.

Assistant-Surgeon S. M. Horton, U.S.A., now on duty at Memphis, Tenn., to report to Colonel M. S. Howe, 8d United States Cavalry, for duty with his regiment.

Assistant-Surgeon W. R. Ramsey, U.S.A., now on duty with the Army of the Potomac, to take charge of the General Hospital at Chester, Pa.

Surgeon L. H. Holden, U.S.A., now on leave of absence, to proceed to Pittsburg, Pa., and report to Major-General Brooks, as Medical Director of the Department of the Monongahela.

Assistant-Surgeon E. T. Whittingham, U.S.A., now on duty in the Army of the Potomac, to report in person to the Surgeon-General for duty in his Office.

Assistant-Surgeon C. D. Brooks, 26th Michigan Vols., now on duty in this city, to join his regiment without delay.

Assistant-Surgeon Warren Webster, U.S.A., now on sick leave for New York, to report for duty to Surgeon Charles McDougall, U.S.A., Medical Director, Department of the East.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## SPECIAL ORDERS, No. 285.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 27, 1863.

8. Surgeon John F. Head, U.S.A., having been detailed as member of a Board of Officers, to assemble at Columbus, Ohio, on the 1st July, 1863, for the examination of Officers who may report at that place, under General Orders Nos. 61 and 100 of 1862, from the War Department, is relieved from duty as Medical Director at Louisville, Ky., to enable him to sit on said Board.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## Medical News.

THE PHYSIOLOGY OF MORMONISM.—By Charles C. Furley, M.D., Assist. Surg. U.S.A.—A marked physiological inferiority strikes the stranger, from the first, as being one of the characteristics of this people. A certain feebleness and emaciation of person is common amongst every class, age, and sex; while the countenances of almost all are stamped with a mingled air of imbecility and brutal ferocity. This, in fact, is their true character; they being obsequious and yielding to their superiors—to strangers sullen and spiteful, while among themselves they are cold and unamiable. In the faces of nearly all, are defects, the evidences of conscious degradation, or the bold and defiant look of habitual and hardened sensuality—the women, with but few exceptions, shrinking from the gaze of the stranger, as if fully alive to the false and degraded position they are forced to occupy. Some seem overwhelmed with shame; others wear a forlorn and haggard appearance; while a few put on a cheerful air, affecting to be satisfied with their sad condition.—*Med. Press.*

MESSRS. WOOD, of New York, are about to publish a work on the Diseases of the Ear, their Diagnosis and Treatment, by Dr. Von Trötsch, Surgeon and Lecturer in Würzburg, Bavaria, translated and edited by D. B. St. JOHN ROOSA, M.D., late House Surgeon in the New York Hospital, Surgeon for the Eye and Ear in the N. E. Dispensary.

PROF. F. H. HAMILTON, Medical Inspector U. S. Army, has recently been twice made a prisoner by Morgan's guerilla band. The first time they stole his baggage and then set him free; the second time he was immediately released.



## Original Lectures.

### DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1862 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

#### LECTURE IV.—PART III.

##### PERTUSSIS—ITS COMPLICATIONS.

FINALLY, gentlemen, whooping-cough may be complicated with some of the exanthemata, particularly with measles, to which it seems to be in some mysterious way related. In the majority of cases the convulsive cough succeeds the appearance of the eruption. The cough of the catarrh of rubella, instead of dying away with the other symptoms, continues, becomes more frequent, especially at night, and soon assumes the kinks and the hoop; there we have the injection of the face, the vomiting, the expectoration of ropy mucus, and, in a word, all the symptoms of pertussis. This form of the complaint possesses neither its usual violence nor its usual persistence; but, on the other hand, is very strongly inclined to run into capillary bronchitis or pneumonia.

As there are no distinctive post-mortem appearances in a case of simple whooping-cough—as its mortality depends chiefly upon its complications, and as upon dissection we find only alterations that are due to them—the disease can hardly be said to have any pathology; but numerous and widely differing opinions have prevailed as to its *nature*.

It has been regarded as attributable to the inhalation of the eggs of a minute species of insect—to some irritating effluvia cast off from the blood into the lungs—to derangement of the intestinal canal—to a morbid change in the liver—to crude and bilious matter in the stomach—to inflammation of the larynx or bronchi, and to peculiar irritability of the glottis. Many authors consider that it is owing to disease of the brain and its membranes, and others again that it is essentially nervous or spasmodic, its true seat being undetermined.

The mode of death, you will remember, is usually either through the lungs or the brain; and it is in these organs that we shall find nearly all the structural lesions of importance. The vessels of the brain and its membranes are frequently discovered distended with blood, though this is not an invariable appearance, for it is sometimes absent even in cases of convulsion and coma; softening of the brain-substance is exceedingly rare; but we may now and then find a collection of blood in the ventricles.

The lungs present the anatomical changes which we know to result from the pulmonary complications. The mucous membrane of the bronchial tubes is more or less red, and their cavity is filled by mucus or by mucopurulent fluid. Several authors also notice a decided increase in the calibre of the air tubes, which is one of the consequences of inflammation of them. We may also discover more or less extensive collapse of the lung, characterized by the solidity and violet hue which we have before noticed. And to these may be added the lesions of pneumonia or of tuberculosis.

Dr. James Duncan seems to have hit upon the true idea of whooping-cough when he proposed to class it with the eruptive fevers; and however extraordinary this notion may appear at first sight, a little consideration will convince us of its value. It is evident that, while there is some disarrangement of the nervous system in pertussis, we can hardly call that a nervous disorder which attacks an individual but once in his lifetime, which is often

epidemic, and sometimes contagious; but, on the contrary, we all know that these qualities belong peculiarly to the exanthemata. Like these febrile diseases, whooping-cough is oftenest met with in infancy and childhood, is preceded by a period of incubation and by a period of precursory symptoms, has a stage of augmentation and a stage of decline. It is also more closely allied with measles, because, like it, it often follows epidemic catarrh, is complicated by bronchitis and pneumonia, and terminates frequently in tuberculosis.

Many of its phenomena may be explained by a lesion which is often discovered in the bodies of those who die of it, namely, some disorder of the pneumogastric nerve. Thus, the frequent vomitings can be produced by an influence propagated through the filaments which ramify upon the stomach. The hoop which follows the expiratory cough depends on the spasmodic contraction of the glottis through the agency of the recurrent laryngeal. The swelling and lividity of the face, the epistaxis, and the various hæmorrhages which we have observed, are secondary phenomena resulting from the venous congestion of the capillaries, which is in turn caused by the complete emptying of the lungs of air. The accumulation of venous blood, also, in the vessels of the brain and spinal-cord, prevents a proper stimulation of these nervous centres, and very probably compresses them: whence result the headache, drowsiness, and convulsions, that appear during the paroxysm.

Whooping-cough being in all probability owing to some poison circulating in the blood, just as intermittent fever is, it is not unreasonable to suppose that pathological chemistry will at some future age furnish us with an antidote for it. But at present we are obliged to treat it very much as we do its relations, the eruptive fevers—that is, to let it run its course, and guard against its complications. It is a disease that is rebellious to all treatment, and yet we have an enormous list of specifics against it; a fact that we can explain by the length of the disorder, the fatigue which it causes, the impatience of the parents, and the small success of preceding treatment—which circumstances induce us to try our hand at it anew. We must not endeavor, then, to *cure* the complaint, for this we cannot do, but our efforts should rather be directed towards modifying its intensity, and preventing its intercurrent diseases.

To attain this object we have various means, and among them hygienic precautions will first engage our attention. The child should be kept as much as possible from cold and damp, but when the weather is clear and dry, it should have abundant exercise in the open air. Care should also be taken that the clothing is suitable to the season—light and cool in summer, warm and soft in winter—that the skin is kept perfectly clean, and the bowels regular, and that the food be well chosen, and given at proper times. The meals should not be very copious, but at the same time they may be more frequent than usual. The milk of the nurse is of course the best food for an infant at the breast, provided we assure ourselves that the woman is in a proper condition to produce a healthy secretion. Older children will require nourishment that is easily digested, such as light soups, fresh eggs, plenty of milk, baked fruits.

When the disease is preceded by the usual catarrhal stage, our treatment during that period will be extremely simple. As an equable temperature is desirable, our patient is to be confined to the house, and not allowed to wander about halls and passages where the irritability of the bronchi will be increased by draughts of cold air. A light and unstimulating diet, an occasional laxative, a mild expectorant, and if there be much wheezing, an emetic of ipecacuanha, every evening, will answer all indications.

If the disease pass into the convulsive stage, the cough and hoop being very slight, and the paroxysms few in the course of the day, but two remedies will be required—care and time. If, however, the intensity of the disorder be such that we are forced to have recourse to medicine, let

us begin with those articles which will least debilitate our patient, and the administration of which can be continued for a length of time; for by this plan we reserve our strength for emergencies when it may be imperatively called for. The French speak highly of the subcarbonate of iron, given in doses of from five to fifteen grains, and remark that it is particularly useful in cases where the child is naturally delicate, and where the disease has debilitated him from its duration and intensity. The oxide of zinc, also, is another of these remedies which has been used upon the Continent with considerable success; and as it has neither taste nor smell, the child may easily be induced to take it. A powder containing a grain each of oxide of zinc and musk, and nine grains of white sugar, may be given every two hours to a child two years old.

Among the remedies most frequently resorted to are some of the narcotics. When I speak of narcotics, opium will, of course, be instantly suggested to you, and, indeed, it was a great favorite with the old physicians. At present, however, it is not so much used, for it favors cerebral and pulmonary congestion, produces restless prostration, a diminution of expectoration, and dryness of the fauces—symptoms not at all favorable. It is better to reserve it for certain special cases where the cough is so intense as to cause great agitation and sleepless nights; under such circumstances we may employ some of the milder preparations of it, such, for instance, as the camphorated tincture.

Belladonna, however, is deserving of more confidence in this disease, and has been very extensively employed both by German and American physicians. From my own experience I can speak very highly of its good effects, having used it in some two or three hundred cases. Acute bronchitis, and cerebral and pulmonary congestion, of course, contra-indicate it; and we should also be careful to begin with small doses, and watch it closely. In the Demilt dispensary one sixty-fourth of a grain of the extract is given to a child one year old, every three hours, and the dose is increased with the age. Some physicians direct it to be given in gradually increased doses, until its effect upon the pupil becomes evident, and some of the symptoms of narcotism are produced; but I have never found it necessary to carry it to this extent.

Lastly, hydrocyanic acid is countenanced by the great authority and experience of Dr. West. He begins with half a minim of the dilute acid every six hours for a child nine months old, gradually going up to one minim every four hours. It seems to him to exert an almost magical influence on the cough, diminishing the frequency and severity of the paroxysms almost immediately; while he acknowledges that in many cases "it seems perfectly inert;" and in others "exerts its peculiar poisonous action upon the system, so as to render its discontinuance advisable." I should advise you, therefore, when you have so many safe and more reliable drugs, to have recourse to this only with great reluctance.

The complications which appear in the convulsive stage require great judgment in their management. You are never justified in abstracting blood, or in adopting a depleting plan, because your object is to support the system, so as to enable it to overcome the disease. Bronchitis and pneumonia are to be met by efficient counter-irritation externally, and by expectorants, and even stimulants, internally. At the same time, having in mind the tendency there is to collapse of the lung in whooping-cough, and how much that tendency is aided and augmented by the copious accumulation of tenacious mucus in the bronchi, you will endeavor to keep these tubes free by the frequent administration of emetics.

If convulsions occur, we must remove their exciting causes as far as we can; the bowels are to be opened either by enemata or purgatives, the gums lanced, and warm baths resorted to. If we are treating the child with any narcotic, it should instantly be abandoned. Cold lotions to the head, leeches behind the ears, and sometimes blisters to the nape of the neck, are means that we may resort to.

But as the convulsion generally arises from the violence of the cough and the repeated arrest of the circulation, our hopes of preventing or curing them are very slight indeed. Dr. Churchill, however, reports one case in which, though it terminated fatally, chloroform seemed to be of service.

The treatment of the third stage of pertussis depends much upon the nature of the case. If its course has been regular, change of air is usually all that will be required. If the bronchi continue loaded with viscid mucus, the skin cold and moist, and the pulse frequent and feeble, the administration of from three to five grains of alum every hour or six hours will be found useful. Where the complaint ends in tuberculosis, you will, of course, adopt the proper measures for that condition; and in all cases, even when the disease has been mild in its progress, you will be careful to avoid for a long time all circumstances which can give rise to pulmonary irritation. Tonics, such as iron or cinchona, will be needed to complete the cure.

I have only been able to give you, gentlemen, a sketch of the kind of treatment that is appropriate to whooping-cough. In the course of your studies you will discover an innumerable host of specifics for it; but you will finally become convinced that you cannot arrest the disorder, and that your wisest course will be to palliate it so far as you can, to detect the complications early, and treat them promptly, to put your patient under a wise system of hygiene, and then to trust to the conservative powers of the greatest of all physicians—Nature.

## Original Communications.

### REMARKS ON HOSPITAL GANGRENE.

By GEO. R. WEEKS, Surg. U.S.V.,

IN CHARGE OF McPIERSON HOSPITAL, 17TH ARMY CORPS, DEPART. OF TENN.

WHILE on duty in the Department of the Ohio I was requested by Surgeon M. Goldsmith, U.S.V., to personally observe and report any facts of interest in regard to cases of "hospital gangrene" that had been treated in the various hospitals in Louisville, Ky., of which he was Surg.-in-Chief. I personally observed at that post one hundred and fifteen cases, and six have occurred at this hospital since my arrival here.

In the collection of the facts at Louisville, Ky., I had access personally to many of the cases. I conferred with the surgeons in charge of the various hospitals, and those also in charge of the different wards. I also had access to the notes and case-books, from which sources the following facts were taken, and have been reported to the Surgeon-General:—

There were one hundred and fifteen cases treated in the various hospitals in Louisville, Ky. Of these one hundred and four were treated with bromine in some manner, and eleven by other remedies. Of those treated by bromine, three died: two of pyemia, and one of cellulitis, gangrene having been previously arrested, and the wounds were granulating. Of the eleven otherwise treated, three died of gangrene. Of those treated by bromine, eighty were treated with compound solution (Smith's formula), and twenty-four with pure bromine. The average time of arrest in the cases treated by compound solution of bromine was 8-19 days; those by bromine pure, 2-12 days; and of those otherwise treated, 14-66.

I observed this general fact, that, as the strength of the remedy was increased, the process was shortened in a corresponding ratio also; also, that, where bromine pure was properly and efficiently applied, only one application was required to arrest it, although three or four days were afterwards necessary for the development of granulations.

Another and more important fact was observed, i.e. that the local application of bromine to a gangrenous surface

had a *direct* effect upon the constitutional symptoms, which were immediately lessened in violence, and the constitution rebounded as if relieved of a burden: this was the case with those who had no constitutional treatment whatever.

So constantly was this observed, that I am inclined to adopt the following—

#### PATHOLOGICAL VIEWS OF THE DISEASE.

That, primarily, it is entirely *local* in character. That the constitutional disturbance is secondary, the "*materies morbi*" being received into the circulation by absorption, directly from the traumatic surface, where the morbid element is deposited or manufactured during the *early part* of the chemico-vital changes that take place during the establishment of the putrefactive fermentation in or upon the sore. In support of this view I would present the following reasons:—

Many cases were observed where both legs were wounded with the same ball; *one only became gangrenous*. If the morbid agent was in the blood, why were not all alike affected, as all were supplied from internally by the same material? One case was reported where gangrene attacked the dorsum of the foot, there being a small abrasion there of the cuticle. The original wound was not in the calf of the leg. I ascertained from his nurse that he would not keep his feet covered, and that the original wound had been dressed by simple cerate, and never at any time had shown a gangrenous disposition. I also observed that the constitutional symptoms *followed* the local, not appearing until several days after the wound had taken on a gangrenous character.

Perhaps the observance of the past will warrant me in saying that this disease is *aggravated*, if not *produced* by crowded hospitals, small amount of air-space, and the decomposition of animal matter which is held in solution or in vapor in the atmosphere. If so, it must enter the system by endosmosis through the pulmonary structures, mingled with the current of the blood, and distributed by the arteries to distant parts of the system; or be directly absorbed from the wound, which, I think, is the more rational idea, and which is capable of explaining most of the phenomena observed. I cannot quite see how, in gaining access by endosmosis through the cell wall and pulmonary structure, it does not leave some of its morbid element at this point, thus affecting the bronchial mucous membrane. We have the right to expect, at least, that its first impression would be the most deadly.

Where obstruction in the lungs has occurred, or metastatic abscesses have been found, the obstruction was on the cardiac side, several specimens of which I now have in my possession, where the bronchial mucous membrane is not involved, but where the capillaries and smaller vessels are entirely occluded, as I think, by particles of thrombus, detached either by the force of the current passing by and carried with it until arrested by the calibre of the vessels, or formed by the septic condition of the blood received from the wound.

The virus being absorbed from the wounds and mingled with the blood coagulates the plastic portion, and thus forms thrombus, thus impoverishing the remainder and rendering it aplastic. This process (the formation of thrombus) is a gradual one, and may progress or remain stationary in the vessels after the process is arrested locally.

Virchow has many facts bearing upon this question, *i.e.* the formation of thrombi, and the transformation of the cell content, but my limit will not permit the discussion of these questions. But I have found in the examination of all cases after death in this class of diseases, thrombi, and in those of long standing I have found "*occlusion*" of the smaller vessels, and what I denominated "*mechanical pneumonia*," in which condition the smaller vessels and capillaries were thus obstructed; and where the portion of thrombus thus detached was larger, we had the condition of pyæmia. In no case have I observed it in the liver, although I have frequently sought for it there. I believe

that over these conditions bromine has a specific influence, and if properly used at an early period of the disease, will surely arrest it and its sequences. Very much depends upon the time when the application is made, which should always be as early as possible, in order to avoid its consequences.

It holds superiority over nitric acid, for the reason that it is not so destructive to living tissue, and can be used where the acid is inadmissible on periosteum, tendons, and vessels, without destroying their integrity. It is of great utility in cases of secondary hæmorrhage, where the artery has sloughed, three cases of which have occurred where arteries were tied in gangrenous sores with complete success, thus enabling us to extend the rule of Guthrie to these cases—"always to tie a bleeding vessel in the wound, if it can be reached at that point."

I have tied the anterior tibial artery upon the face of a gangrenous stump, and arrested the process by the use of bromine, and the patient recovered as well as by a primary operation. The brachial and dorsalis pedis artery were tied under the same circumstances, with the same result. The patients are now well. Bromine arrests the gangrenous process so effectually and certainly, that I am inclined to think this procedure good practice. The six cases that have occurred since I have been in this hospital have been promptly arrested by one application, except in the case of Adam Brangle, of Co. I, 1st Regt. U.S. Infantry, who was admitted to this hospital, June 15, 1863, in a profound state of pyæmia. He had been wounded in the hand by the premature discharge of a cannon, and an effort was made to save two of his fingers at Third Division Hospital; gangrene supervened, and secondary amputation was resorted to at the middle of the forearm; gangrene attacked the stump, and extended up as far as the elbow. Absorption had already taken place upon his admission into the hospital, as pneumonia was already apparent from auscultation in the upper lobe of the right lung. I treated the arm with pure bromine, which entirely arrested it on the second day; granulations made their appearance on the fourth day. The arm continued to do well until the time of his death, which occurred on the 26th ultimo. An autopsy revealed thrombi in nearly all the vessels, and "*mechanical pneumonia*," which was the actual cause of death. Thrombus was found extending the full length of the pulmonary artery, and the smaller vessels were completely occluded. At numerous points small abscesses were in process of formation. The lungs were very much enlarged and solidified; the bronchial mucous membrane was slightly congested. Upon making a section through the lung, the thrombi in the smaller vessels could be distinctly seen covering the entire surface with red and deeper colored points, in the large ones becoming almost black—the smaller ones resembling in appearance coagulated venous blood, except that they were more firm and tenacious.

I believe the best mode to apply the bromine to be this, *i.e.* With a pair of scissors or a scalpel cut away all the sloughs down to the living tissue (or until by hæmorrhage you are warned to go no further), being careful to clean out all nooks and corners putting off from the central sore, or where it has dipped down into intermuscular spaces or followed along the cellular plane, where it is apt to escape observation. Then wash the wound with warm water, and dry with a pledget of lint or charpie; then apply pure bromine to the entire surface with a mop or swab, and if cavities exist inject it into them with a small glass syringe, and with a pine stick press it up so as to mix it with all the pulp or pultaceous matter that may still linger in the wound. Simple dressings should then be applied, and the sore excluded from the atmosphere for two days, when warm-water dressings should be used to facilitate the detachment of the slough, after which points of granulations will be noticed springing up, and, if no fetor is present, the arrest is complete. If some fetor still exists, it is evidence that some points have been missed and should be retouched, observing the same rule as in its first application.